Appendix K
Comments Received on the Draft EIS, Draft HCP, and Draft Implementing Agreement and Responses

On June 29, 2012, USFWS published a notice in the Federal Register stating the availability of the Draft Environmental Impact Statement (DEIS), Draft Habitat Conservation Plan (DHCP), and Draft Implementing Agreement (DIA). This notice included information on how to obtain copies of and provide comments on these documents and information on the public meeting location and time. The public comment period for the abovementioned documents expired on September 27, 2012.

USFWS received comments through the Federal Rulemaking Portal at http://www.regulations.gov and via hard copy comments mailed in to the Public Comments Processing center. All comments submitted electronically and in hardcopy were posted on http://www.regulations.gov. This appendix includes all comments received and the USFWS responses to each.

This appendix is organized into two sections: Section 1 includes the comments received and related information (commenter name and/or organization, Document ID# that was assigned on the Federal Rulemaking Portal docket, and itemized comment #), including copies of all letters received as attachments to the comments. Section 1 is organized alphabetically according to commenter last name. Section 2 includes the itemized comment #, comment text, and the USFWS response. Section 2 is organized by the itemized comment number.

Provided below is a list of revisions to the DHCP that are now incorporated in the Final HCP. These revisions were made in addition to any changes in response to public comments. Responses to public comments and associated revisions are addressed later in this Appendix.

- Throughout document—Removed references to "Nationwide Permit" and replaced with references to appropriate Corps of Engineers authorization throughout document.
- Section 2.4—new section description of the Action Area.
- Section 2.8—updated discussion of public participation since draft document published.
- Sections 4.1, 5.1.2.7.2, 5.1.2.7.5, 5.1.2.7.6, and 7.2.1.2—updated Indiana bat population estimates as of 2011.
- Sections 4.1 and 4.1.1—added recent WNS data.
- Sections 4.5.5 and 5.1.2.6—updated to include 2 recent Indiana bat collisions at wind facilities.
- Sections 4.5.5.4 and 5.1.2.6.3 and Table 6-1—added results of recently published curtailment study by Good et al. (2012).
- Sections 5.2.1.2.1, 6.1.2, and 6.2.1—added commitment to horizontally directionally drill intermittent or ephemeral stream if water is in it at time of crossing.
- Sections 5.2.1.2.1, 6.2.1, and 6.2.5—added reference to list of native trees suitable for Indiana bat habitat restoration.
- Section 5.2.3.1, 6.3.4, and 7.2.1.7—corrected scientific names of various bush honeysuckles.
- Sections 5.2.3.2, 6.3.4, 6.5.4.1, and 7.2.1.4—changed "will" to "may" relative to tree girdling to allow FWS to determine if it is appropriate or necessary at a given site.

- Section 6.4—added a conservation measure involving collecting bat specimens for future scientific study by entities other than Buckeye Wind.
- Section 6.5.2—added statement allowing FWS to access turbine sites during mortality monitoring.
- Section 6.5.3.2 and 6.5.3.5—added probability of miss as criteria for reducing cut-in speeds if 0 Indiana bats are detected.
- Section 6.5.2.8—inserted discussion of detection probability.
- Section 6.5.2.9—new subsection added to discuss how adaptive management can be used to increase detection probability and decrease probability of miss with approval of ODNR and USFWS.
- Section 6.5.2.9.2—clarified adaptive management approach for monitoring.
- Section 6.5.5 –added reporting requirement for probability of miss and probability of detection if 0 Indiana bats are found.
- Appendix D—new appendix, list of native trees suitable for Indiana bat habitat restoration.

Appendix K, Section 1: Original Comments Received on Draft EIS, Draft HCP, and Draft Implementing Agreement

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Commenter Last Name, First Initial	Commenter Organization	Document ID	Original Comment	See Itemized Comments (Section 2)
Arnold , D	Ohio Farm Bureau Foundation	FWS-R3-ES-2012-0036-0028	See letter..	0028-1 to 0028-10
Bartlett, A	None	FWS-R3-ES-2012-0036-0016	My husband and I are members of Bat Conservation International and realize the benefits of bats in Champaign County where we have lived for 34 years. We delight in seeing them on summer nights and have had several bats make their way into our house, offering us a challenge to humanely usher them outside. We've read the statistics of the numbers roosting, raising their young and passing through on migration routes in this area. White Nose Syndrome adds significantly to our concern for the welfare of these beloved creatures. Don't allow Buckeye Wind's Impact Statement and Conservation Plan to alter or dilute stringent efforts to protect our bats. They have made public their plans to treat the issue of bats being killed outright or by barotrauma without giving bats the status they deserve. The value of wind farms cannot be placed above the value of wildlife, especially bats. Everpower's Buckeye Wind is requesting the least restrictive scenarios with their Incidental Take Permit and Habitat Conservation Plan. Please reject their plans in favor of Alternative A (Maximally Restricted Operations) or disallow the construction of industrial wind turbines that will cost the lives of our beneficial bats.	0016-1 to 0016-3
Bauer, D	None	FWS-R3-ES-2012-0036-0098	See letter.	0098-1 to 0098-5
Bauer, Don	None	FWS-R3-ES-2012-0036-0020	I attended the hearing held in July. I support the plan as land out by Buckeye Wind to protect and enhance wildlife while protecting our environment. The Buckeye Wind Project will benefit our community and our nation. Their plan is very workable and a balanced approach to species protection and energy production. I believe we need to see this project built for our future and my grandkids future. Let's get going now!!!!!!!!!!!!! Thanks you for considering my comments	0020-1 to 0020-3
Bauer, H	None	FWS-R3-ES-2012-0036-0064	I support the plan as laidout by Bukeye Wind to protect and enhance wildlife while protecting our environment. The Buckeye Wind Project will benefit our community and our nation.	0064-1 to 0064-2
Bauer, J	None	FWS-R3-ES-2012-0036-0034	I support the Buckeye Wind Project efforts to enhance wildlife by working closely with local authorities o USFW. We support the proposed plan and energy production that will provide an improved environment for wildwife and people.	0034-1 to 0034-2
Berning, R	None	FWS-R3-ES-2012-0036-0014	Buckeye Power should be restricted from erecting any wind turbines which would endanger the Indiana bats, or any other wildlife such as birds.	0014-1
Berry, J	None	FWS-R3-ES-2012-0036-0021	I LIKE THE IDEA OF THE WIND TURBINES AND THE BATS CO-EXISTING. CLEAN ENERGY AND A GOOD HABITAT FOR BATS TO LIVE IN FOR 40 TO 50 YEARS DOWN THE ROAD. MUCH BETTER THAN HAVING HABITAT DESTROYED AND HOUSES BEING BUILT.	0021-1 to 0021-2

Commenter Last Name, First Initial	Commenter Organization	Document ID	Original Comment	See Itemized Comments (Section 2)
Blanton, A	None	FWS-R3-ES-2012-0036-0041	My husband and I, along with our four children, spend much time outside at our family home which is in the middle of the proposed Buckeye Wind Project area. As a family, we enjoy gardening, fishing and raising animals for 4-H projects. We are aware that industrial wind turbines kill numerous bats yearly and this concerns us as we believe that the bat is crucial to maintaining a healthy eco-system and environment in our community. We, along with many other families affected by this project, have concerns about the negative impact this project would have on the local bat population which would result in more reliance on insecticides and pesticides. In relation to the Buckeye Wind Power Project, please deny the requested ITP and select the NO ACTION alternative.	0041-1 to 0041-3
Blanton, S	None	FWS-R3-ES-2012-0036-0075	It's my opinion as a person who currently lives in the proposed Buckeye Wind Project site that the U.S. Fish and Wildlife Service should require that the Buckeye Wind project operate under Alternative A (Maximally Restricted) and Everpower's Preferred Alternative should be opposed because it poses an unacceptable risk to the Indiana bat and other species. U.S. Fish and Wildlife Service should select the No Action alternative and deny the requested ITP. The loss of bats will have far-reaching ramifications for the people who live in the proposed project area. Our only alternative to the loss of bats will be to use insecticides and pesticides. These have costs - both financial and environmental - for our families, our children, our pets, livestock and crops. When you assess whether or not to accept Everpower's proposal, please remember that your decision affects the health and welfare of the people who live there. I cannot believe that with a good conscience you could give your approval to a project that would lead to a deterioration of the natural environment in Champaign County.	0075-1 to 0075-6
Boulton, J	None	FWS-R3-ES-2012-0036-0040	I am a resident of Goshen Township in Champaign County Ohio. I live within the footprint of Everpower's proposed Buckeye II project. My property is 3 miles north of Mechanicsburg, OH and 23 miles west of Dublin, OH. Everpower is proposing to construct wind turbines directly contiguous both to the east and west sides of my property. Goshen Township is not a remote rural area. The vast majority of people living in this area are rural commuters to Columbus, Marysville, Springfield, Dayton, etc. I can personally be to the Tuttle Mall off of I-270 in Columbus in 25 minutes from my home. My message is simple. Everpower's proposed wind turbines pose an unacceptable risk to the Indiana bat and other species. I encouage the U.S. Fish and Wildlife Service to do all it can to stop Everpower from constructing the proposed wind turbines. We spend a lot of time outdoors on our property. We have a horse, large dogs, trails, flower gardens, etc. We need the bats and all the other wildlife in our area. Our bedroom community for Columbus and Dayton is no place for the scatter site development of a heavy industrial wind turbine project. Thank you for considering my comments in your deliberations.	0040-1 to 0040-2
Brenneman, C	None	FWS-R3-ES-2012-0036-0087	See letter.	0087-1 to 0087-13

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Bumgarner, G	None	FWS-R3-ES-2012-0036-0094	See letter.	0094-1 to 0094-2
Cole, A	None	FWS-R3-ES-2012-0036-0070	It seems counterintuitive to me to allow the wind industry to be permitted to kill a certain number of animals each year regardless of if they are an endangered species or not, when if any homeowner or anyone else harmed a hawk, bald eagle, Indiana bat or other species (all of which are known to frequent this area of Champaign County), they would face stiff penalties up to and including jail time. We are not so desperate for energy in the state of Ohio that it makes environmental or business sense to kill or other wise harm our wildlife and their habitats.	0070-1 to 0070-2
Connar, W	None	FWS-R3-ES-2012-0036-0012	I live on Cambrian Road (Cable Ohio) and I have two ponds near my property and I have a number of bats during the summer. These bats help keep the insect population down and I feel the turbines will only reduce the bat population. Please consider the impact these turbines will have on our community.	0012-1
Crooks, A	None	FWS-R3-ES-2012-0036-0009	Our household consists of 2 Adults and 3 small children. Roughly 80 percent of our consumed fruits and vegetables come from our organic gardens and orchard. With the potential losses to the Indiana Bat population, our efforts of organic gardening will certainly be compromised. Our family cannot afford a dramatic loss in fruit and vegetable production. Also, with the increased possibility of health risks to my family, our intent will be to sell our home and move from Champaign County. We realize that the chances of selling our home without a huge loss are slim to none. More than likely, we will end up giving our $300,000 house back to the bank while ruining our 800+ credit scores. We feel this will be our only option. We will not risk the health and well being of our children or ourselves. We request that the project be denied or, alternatively, that the Buckeye Wind project operate under Alternative A (Maximally Restricted Operations).	0009-1 to 0009-4
Culp, L	None	FWS-R3-ES-2012-0036-0061	Current Indiana Bat populations at risk from White Nose Syndrome require greater protection for the Indiana Bat populations and their habitat. Everpower is dismissive of the White Nose Syndrome issue. The mortality monitoring program in Everpower's plan is inadequate based upon USFWS previously approved plans. Economic feasibility is irrelevant when determining an effective plan for protecting an endangered species. Everpower appears more concerned with controlling their costs rather than protecting endangered species and their habitat. The public expectation is that USFWS will live up to your mission statement and put the needs and concerns for endangered species and the habitat that they depend upon first. Failure to do so puts endangered species at greater risk and diminishes public confidence in your agency. Act on the behalf of the endangered species whose survival depends upon USFWS fulfilling your mission statement. Deny the Buckeye Wind Power Project permit.	0061-1 to 0061-6

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Dagger, J	None	FWS-R3-ES-2012-0036-0086	Farmers continue to be early adopters and understand the need to constantly look at balanced approaches to science and technology. Similarly, Buckeye Wind with the help of wildlife consultants and constant comunication with a host of agencies and stake holders have developed a science based approach to evaluate,mitigate and ehance a host of species including the Indiana Brown Bat. The EIS and HCP are a testement to what colaboration can and do to enable us to advance the harvest of clean energy as well as ensuring little impact to wildlife and the community as a whole. As a farmer and person in the energy business,I comend the efforts of the group on a very robust document.	0086-1 to 0086-2
Davis, D	None	FWS-R3-ES-2012-0036-0013	I am a lifelong resident of a rural area of Ohio, where farming is a livelihood for many. I am opposed to anything but the most stringent of rules for the Buckeye Project and I have 2 articles in print to reference: 1. According to the Kansas City Star in September 2011, an author Kunz, published in the journal Science that bats will experience massive die-offs in the next 3 years b/c of both a fungus and wind turbines. His estimates for this economic impact in the Midwest region are losses of anywhere from 3.7 to 53 Billion $. 2. In July of 2011 in the Pittsburgh Post-Gazette, a study was done on their turbines and dead bats surrounding them. Each turbine averaged 25 bat deaths/year and each bat is estimated to consume as many as 500 insects/hour. Therfore, their bat deaths equated to 17 million UNeaten bugs that could have saved farmers $278 million in pesticides. Ohio depends on our agricultural business and anything you do to damage that business will mean a loss of revenue and jobs for our state. In this economic recession, where inflation is clearly occurring at the supermarket, the last thing that consumers and farmers need is rising costs due to the increased use of pesticides; and this does not consider the physical consequences of consuming more pesticides and putting them in our waterways. The bat MUST be protected in this state!	0013-1 to 0013-3
Davis, D	None	FWS-R3-ES-2012-0036-0050	I reside in NW Ohio, a very rural area, where many families depend on the success of farming for their livelihood. I am opposed to the proposed loose regulations on this bat and I have 2 references worth checking: 1. In September 2011 in the Kansas City Gazette, a boston bat researcher was quoted talking about the upcoming massive bat die-off in the next 3 years. Why? fungus and turbines. His conservative estimate for the economic impact in the MidWest is anywhere from 3.7-53 Billion $/year. 2. in July 2011 in the Pittsburgh Post-Gazette, researchers suggest that the average turbine killed 25 bats/year in PA. Each turbine is responsible for eating an average of 17 million bugs/yr. In all of PA, they suggest that bats saved farmers $278 million dollars in pesticides. In this struggling economy, with inflation clearly rising at the grocery store, how can you support a project that will cost our farmers millions-billions of $? Those costs will be passed on to the residents of Ohio and others. Additionally, the enormous increase in the use of pesticides will harm all of us and run-off into our waterways. The bats are being destroyed by the white-nosed syndrome and they don't need an additional destroyer to dessimate their entire population. Finally, the West Nile Virus has entered Ohio. If we destroy the bats, no one will be safe going outside. How can you justify being anything but extremely strict on this company?????	0050-1 to 0050-6

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Davis, D	None	FWS-R3-ES-2012-0036-0051	Have you considered that some of these positive comments for Buckeye Wind are being made by the lease holders? They will benefit financially.	0051-1
Davis, K	None	FWS-R3-ES-2012-0036-0059	I have faith that the USFWS will choose NO ACTION, denying EverPower's ITP. The Buckeye Wind Project should be deemed operational only under Alternative A--Maximally Restricted. Considering the role bats, and the endangered Indiana Brown Bat in particular, play in the lives of Ohioans, it seems irresponsible, unconscionable, and greedy for EverPower --regardless of economic cost to EverPower--to not willingly propose to operate only under Alternative A. Bats are crucial to the health and economy of those who live in, near, or travel to or through the proposed project area. If the ITP is approved as proposed, the resultant increased use of pesticides to protect human and animal health from insect-borne disease, agricultural production from imbalanced ecology, and residences and businesses from being financially affected by increased insect infestations will be a huge hardship, if not financial ruin, for those who must pay. Also, the cost in human and animal health from exposure to excess pesticides is unconscionable. Businesses like EverPower need to responsibly protect ALL living beings within the ecology the project would alter. Many of the dollars it would take to operate under Alternative A come from tax dollars anyway, so, I ask USFWS to not allow this project to tax Ohioans twice, thrice, etc. with their health and resources.	0059-1 to 0059-5
Dillon, T	None	FWS-R3-ES-2012-0036-0066	I support the plan as laidout by Bukeye Wind to protect and enhance wildlife while protecting our environment. The Buckeye Wind Project will benefit our community and our nation.	0066-1 to 0066-2
Driever, D	None	FWS-R3-ES-2012-0036-0019	My wife and I are very concerned with the lack of information that is being used to evaluate Everpowers sitings of turbines for the Buckeye Wind Project. The Indiana bat is a vital ingredient to sucessful farms in this area. With increased pesticides having to make up for the lack of decreased bats, what other wildlife will be adversely affected ? The current standards are too lacks and are taylored to benefit Big Wind. We in Ohio need to set the standard others will look to. As an avid fisherman that frequents Lake Erie, the rules are very strict and punishment is very harsh. The same rules should apply. Please remember that this judgement will affect OUR HOMES , OUR FARMS and OUR COMMUNITY !!! Thank-You Dwight & Tonya Driever	0019-1 to 0019-3
Driever, L & B	None	FWS-R3-ES-2012-0036-0039	We live in eastern Champaign County on a 94 acre parcel that is a small part of a farm that has been in the family for more than 60 years. We have many acres of woods and in 2001 added 8 1/2 acres more into a future woods by enrolling in a federal reforestation project. Initially we planted 4,700 trees, the following year planted 2,300 oaks and numerous pines. In succeeding years we have planted more walnuts, tulip popular, sycamore and more than a thousand white pine and Norway Spruce. With all this woodland we have many bats and want to protect them for all they do to control the insect population. One of the turbines will be just 450 feet from our 22 acres of mature trees. There must be numerous bats in that area but in a few years with all the wind turbines there may be none. The more than 100 turbines are much too close to other woodlands, property lines and homes!	0039-1 to 0039-2

Commenter Last Name, First Initial	Commenter Organization	Document ID	Original Comment	See Itemized Comments (Section 2)
Dye, Daniel	None	FWS-R3-ES-2012-0036-0071	Dear Good People, Although I'm currently living in Clark County, I own property in Champaign County, and the potential industrial development of dozens of 492-499' turbines surrounding homes and wildlife is a disgrace. The setbacks are untenable for towers this size, and the sheer number if turbines that Everpower is trying to erect in Champaign County is absurd. Hundreds of homes will be in this wind plant, and this will completely alter a way of life. What is currently rural, residential, and agricultural will be industrial, through a process without proper zoning or common sense regulation. As wind turbines cause light and noise pollution, they devalue property, and also kill bats and birds, and industrializing the eastern half of Champaign County is not a viable answer for the future of this community.	0071-1 to 0071-8
Dye, David	None	FWS-R3-ES-2012-0036-0033	Our family lives on a small family farm (60 acres) within the project footprint. We believe that the bat population has a favorable impact on our environment, the most important being that it reduces our reliance on insecticides and pesticides. The Everpower alternative poses an unconscionable risk to the bat population. The U.S. Fish and Wildlife Service should select the NO ACTION alternative and deny the requested ITP. At the very least, Buckeye Wind should be required to operate under ALTERNATIVE A (Maximally Restricted).	0033-1 to 0033-3
Dye, Y	None	FWS-R3-ES-2012-0036-0077	I am against the the proposed plan to build wind turbines in Champaign County, where I currently own a house. I am from Germany, where the installment of wind turbines near people's homes has caused health problems, protests, and discontent for those unfortunate enough to live near the turbines.	0077-1 to 0077-2
Ehresmann, A	None	FWS-R3-ES-2012-0036-0026	The Buckeye Wind Project has gone to lengths to protect wildlife and work with folks here in the county, I look forward to seeing this project built. I support the Buckeye Wind Project. The Buckeye Wind Project will benefit Champaign County while protecting the wildlife. The proposed plan is a workable and balanced approach to species protection and energy production.	0026-1 to 0026-2
Fisher, J	None	FWS-R3-ES-2012-0036-0092	See letter.	Duplicate letter, see comments 0028-1 to 0028-10

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Forrest, L	None	FWS-R3-ES-2012-0036-0063	Bat colonies are already under stress due to the White Nose Syndrome. It is imperative that the Indiana bat and other species be protected. The most stringent restrictions for bat safety (Alternative A) must be implemented to insure these most valuable, insect devouring assests to our environment have a fighting chance for survival. We are one of 1,000 + families living within the proposed Buckeye Wind project. We rely on the many bats that inhabit our woods for insect control. Most summer evenings we are outside with little need for an insect repellant. We have an organic garden and grow grain crops. Again, the bats are a great help in these endeavors, consuming their own body weight in insects on a daily basis. Boston University estimates that Champaign County will see a $12 million annual increase in the cost of pesticide use if bats are made to endure the additional stress of surviving the atmospheric nightmare of 100+ monstrous wind turbines. The Everpower Preferred Alternative poses an unacceptable risk to the Indiana bat and other species. U.S. Fish and Wildlife Service should select the No Action alternative and deny the requested ITP. In the alternative, the U.S. Fish and Wildlife Service should require that the Buckeye Wind project operate under Alternative A (Maximally Restricted).	0063-1 to 0063-7
Gordon, L	None	FWS-R3-ES-2012-0036-0054	It is important that our Federal agencies protect the interests of the clear majority of American citizens. In the footprint of the proposed wind facility, leaseholders are the clear MINORITY of the citizens. It is therefore imperative that bats are preserved from potential killing by wind turbines at maximum protection - this does not include a 'kill or take allowance'. Our countryside is highly populated compared to other wind facilities across the U.S. Our citizens work and play and socialize in the outdoors. Farm crops are grown on our own property on the acreage which is not occupied by our home; we grow a large vegetable garden which feeds friends and a large number of family members. We enjoy nature particularly during the summer months, when bats are feeding on - and controlling the number of - mosquitos which can make us ill as well as other insects which are known by the farming community to devastate crops. To make allowances for a for-profit firm to get a free-pass to kill various forms of wildlife in the interest of corporate profits is just plain wrong and a misuse of federal authority and tax funds. To the decision-makers involved in this U.S. Fish and Wildlife Service decision, DO YOUR JOB - the one that the majority of the citizens in the wind facility footprint are paying taxes for - stop the politics of catering to a private industry's insatiable appetite for maximum subsidies and profits and make sure that you select the Preferred Alternative of No Action alternative and deny the requested ITP. In the alternative, the U.S. Fish and Wildlife Service should require that the Buckeye Wind project operate under Alternative A Maximally Restricted.	0054-1 to 0054-8

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Gordon, L	None	FWS-R3-ES-2012-0036-0058	I enjoy the outdoors and the contributions made by bats to the environment of the area where I live. Mosquitos which are known to transmit disease are eaten by the bats located in the footprint of the proposed wind facility. Other insects are also eaten by the bats - insects which are well-known to the farming community as damaging to crops. Fewer bats will eat less insects leading to a much greater need for pesticides on farm crops - with probable residual affects on the air we breathe when we're outside, drifting of pesticides to gardens that we eat, lawns that we play on, and leaching into the water we drink. My message is simple: the Everpower Preferred Alternative poses an unacceptable risk to the Indiana bat and other species. The Everpower Preferred Alternative is a blatant corporate maneuver to maximize profits to this private firm at the expense of potential health issues & crop/garden/water damage for the majority of the citizens in the footprint of the proposed wind facility. The U.S. Fish and Wildlife Service should select the No Action alternative and deny the requested ITP. In the alternative, the U.S. Fish and Wildlife Service should require that the Buckeye Wind project operate under Alternative A (Maximally Restrictive).	0058-1 to 0058-5
Grabill, D	None	FWS-R3-ES-2012-0036-0069	The Everpower Preferred Alternative poses an unacceptable risk to the Indiana bat and other species. U.S. Fish and Wildlife Service should select the No Action alternative and deny the requested ITP. In the alternative, the U.S. Fish and Wildlife Service should require that the Buckeye Wind project operate under Alternative A (Maximally Restricted).	0069-1 to 0069-2
Halterman, B	None	FWS-R3-ES-2012-0036-0010	Please don't let the greed of a select few people in this community ruin our beautiful country side!!!	0010-1

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Harris, R & A	None	FWS-R3-ES-2012-0036-0053	We own about 5 acres on Short Cut Road here in Champaign County. Three Wind Turbines are slated to go in across the road from us. Let us tell you about our home and ourselves and the affect the wind turbines will have on our lovely acres. We have an old barn, yes it is falling down, but my the amount of bats that are living in it is quite high. There is an occasional owl too. But the point is they come out every night in the summer and gobble up all those bothersome insects. We have quite a large garden and use no pesticides we harvest and can up all that we grow. Now the field around us is owned by someone else and it's the usual corn, soy bean, every other year and they do use pesticides. Boston University estimates cost in extra pesticides to Champaign Co. farmers could be as much as 12 million annually in increased pesticide costs from the loss of bats due to Wind Turbines and White Nose Syndrome. Just what we want more pesticides leaching into our ground/drinking water! Also my husband likes to golf and there are 2 golf courses in these areas where they are slated to go. I've driven thru these wind farms and I could feel the air change. So it just may have an affect on one's golf swing too! EverPower, Buckeye Wind whatever they are calling themselves today NEED TO OPERATE under ALTERNATIVE A , abide by the most stringent restrictions! And when the Wind Turbine Mfgs. say they should not be placed within 1.3 miles from an occupied dwelling EverPower/Buckeye Wind should do what the Mfgs. say. Wind has had no oversight committee and they are getting away with murder literally. We'd like to see the project denied but if not they must operate under Alternative A. Thank you for your time and consideration in this highly controversial topic.	0053-1 to 0053-8
Hartzler, M	None	FWS-R3-ES-2012-0036-0045	See letter.. The Buckeye Wind Power HCP and ITP of the Indiana brown bat is inadequate and should only be accepted and considered as a Maximally Restricted Operation for multiple reasons. Please see the attached file for the reasons that how the impact of disruption of any species of bat populations in the project area and the impact such disruption may have agriculture, the economy, and the hazards loss of bat populations will have on human health.	0045-1 to 0045-16
Hartzler, M	None	FWS-R3-ES-2012-0036-0068	See letter.. The Habitat Conservation Plan (HCP) and Incidental Take Permit (ITP) for Buckeye Wind Power Project, Champaign County, Ohio should be rejected and denied as being inadequate to protect the Indiana brown bat population of the area of the project. The Buckeye Wind Power Project poses an unacceptable risk to the Indiana brown bat and other species of bats in the area. The U.S. Fish and Wildlife Service should select the No Action alternative and deny the requested ITP. as alternative, the U.S. Fish and Wildlife Service should require that the Buckeye Wind project operate only as a Maximally Restricted project. The rational and reasons for my request are included in the attached files.	Duplicate comment letter, see 0045-1 to 0045-16
Hein, C	Bat Conservation International	FWS-R3-ES-2012-0036-0067	See letter.	0067-1 to 0067-20
Hemmert, D	None	FWS-R3-ES-2012-0036-0080	We hope the U.S.Fish and Wildlife Service will continue to protect the Indiana bat and its habitat and not cater to the monied intertests of the Wind Power Industry.	0080-1

Commenter Last Name, First Initial	Commenter Organization	Document ID	Original Comment	See Itemized Comments (Section 2)
Hennigan, E	None	FWS-R3-ES-2012-0036-0008	I am terrified of what these wind turbines will do to my family, my neighbors and friends in this community. Champaign County is too heavily populated for this. Propery values are going to go down, my children will not be safe to go out and play, the shadow flicker and noise will affect our quality of life, insects will become unbearable because of the decrease in birds and bats in the area, etc. There are SO many reasons to NOT allow this to go forward. There WON'T be hundreds of jobs created, we will NOT be benefitting from the power that these turbines will produce and they will NOT simply blend into the landscape. The only people benefitting are the farmers who have been paid off. My family built our dream house over 7 years ago and it makes me sick to think that soon my view will be destroyed. I worry about what the constant shadow flicker will do to my children, my pets and my husband and myself. Have you seen the videos showing this? Anyone with epilepsy will have to move away. If people would stop and think about the long term affects of these turbines, they would realize that Champaign County will lose residents. People will simply let the banks take over their homes and move away. What other choice will we have? We won't be able to sell our homes. Schools will lose students and new businesses will not even consider Champaign County for their home because of the lack of quality workers. Please consider everyone who will be affected by these turbines. Champaign County cannot afford to allow these to be built!!!	0008-1 to 0008-10
Hohn, J	Hardin County Chamber & Business Alliance	FWS-R3-ES-2012-0036-0027	As Director of Economic Development for Hardin County, I urge you to support the extension of the federal Production Tax Credit (PTC) for wind energy. The PTC fosters economic security and promotes energy diversity. If Congress does not act soon, we could see a significant loss of jobs and roll back in the progress that we have made as a nation in diversifying our energy portfolio. The Production Tax Credit is a pro-development tax policy. It has driven more than $10-20 billion annually in private sector investments. In turn, these investments have created new jobs and positively impacted local economies. At the present time 420 domestic manufacturing facilities are in some way contributing to wind energy. In addition, 75,000 Americans are employed in this industry. If Congress fails to extend the PTC or waits too long America will feel the negative effects. For Hardin County, PTC will generate clean renewable electric energy for thousands of homes and businesses and pay millions in tax revenue to our schools and local government. The proposed wind farms will contribute to Ohio and U.S. energy independence and assist Ohio in achieving its Advanced Energy Portfolio Standard. Most importantly, the Hardin County wind farms will create needed construction and manufacturing jobs and establish permanent operational and maintenance jobs. As the expiration date for the PTC draws nearer many leading wind project developers have begun to slow their plans for new projects in 2013 and beyond. Extending the Production Tax Credit is not a partisan issue. It’s an American issue. This policy not only helps develop our nation’s wind energy industry, but it also creates jobs, and positive economic impacts. Hardin County strongly supports the passage of the PTC.	0027-1

Commenter Last Name, First Initial	Commenter Organization	Document ID	Original Comment	See Itemized Comments (Section 2)
Homan, R	U.S. Fish and Wildlife Services	FWS-R3-ES-2012-0036-0076	For the below reason,I am requesting that the USFWS deny the requested incidental take permit and select the No Action alternative. In addition,the Buckeye wind project should be required to operative under Alternative A [Maximally Restricted Operations}. Data for the Indiana bat show that the proposed wind project is located within a migration route connecting a Priority to their summer roast.Do to the fact bats do night flying to catch insects. With the wind turbines will cause alot of dead bats.Since bats don't have a high reproductive rate and long generation times should carefully be consideration for any industrial wind projects since the detrimental effects of killing one sexually mature animal will outweigh any benefit from setting aside additional locations for habitat.Very importantly any undentified bats in this project should bed counted as indiana bats,and any female should be counted as two indiana bats fatalities during the months from April through mid -August. Our great concern is the mosquitoes problem has really slowed down . We live in a woods with a pond and didn't have to use any spray the last two years. I feel the wind project will hurt the farm industry and homeowners . Lastly the USFWS should put it at a top priority to consider what effect it will have on wildlife including birds,bats, and all other animals that will be affected . Wind farms are not efficient and more costly than other ways to produce electricty. A study should be conducted by a non govt. agency	0076-1 to 0076-12
Hughes, J	None	FWS-R3-ES-2012-0036-0029	I strongly request that maximum protection be provided for the bats of Champaign Co. in regards to the Buckeye Wind Project. A large population of bats would be destroyed if the project is approved as proposed. The protection of bats can be achieved by (1) deny project approval or (2) required Buckeye Wind to operate under a maximum restricted opertions format. Alternative measures to reduce the risk to bats should include but not be limited to adequate turbine sitting setbacks (5 miles) from known capture/roost sites, and 10 miles from hibernacula. The EIS and HCP fails to provide concrete evidence that off site habitat protection will actually compensate for actual losses of Indian bats. Section 10 of the Endagereded Species Act requires the applicant for an ITP to minimize and mitigate take of endangered species to the maximimum extent praticable. This should dictate the protection methods to be applied.	0029-1 to 0029-5
Hyman, J	Conservation Law Center	FWS-R3-ES-2012-0036-0030	See letter..	0030-1 to 0030-33
Johnson, J	None	FWS-R3-ES-2012-0036-0097	See letter.	0097-1 to 0097-16

Commenter Last Name, First Initial	Commenter Organization	Document ID	Original Comment	See Itemized Comments (Section 2)
Jones, S	Urbana University	FWS-R3-ES-2012-0036-0062	As President, Urbana University I am committed to this University walking the talk of sustainability in how we manage our infrastructure, our grounds, and our curriculum. Our campus lies just to the west of the proposed Buckeye Wind Power Project. September 24, 2012 we broke ground on campus for a 500 kilowatt solar photo-voltaic array and we plan other renewable energy pilot-scale operations, including a wind turbine (<100 feet). I am writing in support of the Buckeye Wind Power Project. As a Ph.D. in forestry and natural resources I can offer scientifically objective assessment of the project and in particular the efficacy of the firm's tremendous efforts to understand and minimize potential wildlife impacts. I see an exhaustive effort by the project team to assure minimum environmental impact. Of direct interest, we have converted ~25 acres of managed landscape on campus to native habitat under three-year funding from the US F&WS, an agency dedicated to protecting and enhancing our native plants, plant communities, and wildlife. I am impressed that the Buckeye project is endorsed by the Agency. We have critical elements of Indiana Bat habitat on campus – mature shag bark hickory. Our F&WS liaison has impressed upon us the importance of this critical habitat feature. I view the Bat Protection Plan as an informed, workable, thorough, and balanced approach to species protection and energy production. I am eager to see the Buckeye Project take shape, a reality that will enhance our sustainability thrusts and education programs at UU.	0062-1 to 0062-4
Kelly, S	None	FWS-R3-ES-2012-0036-0047	Our family farm, of which I am an owner along with my siblings, is the site of multiple recreational and agricultural activities for our family and extended community. We have a pond and outdoor trails, we host outdoor reunions and an annual outdoor music festival just down the road at another family property -- all of which take advantage of Champaign County's unique blend of rural beauty, wildlife and concentration of human population. This is not an isolated area with minimal population, but a mix of intense human development interwoven with patches of rural acreage and animal habitat, a mix that makes Champaign County a great place to live for both people and wildlife, a place of ecological balance. Our land is used for both conventional farming and a small organic farming enterprise, both of which are dependent on bats for pest control. As we increasingly try to move away from intensive pesticides for the sake of our environment, wildlife and human life, it doesn't make sense to undermine nature's pest controls and, as a result, destroy the ecological balance we are charged with overseeing. US Fish and Wildlife Services has a mandate to help maintain this balance and should require Buckeye Wind to operate under Alternative A, with maximum restrictions, denying Buckeye Wind's plan. As it stands, Buckeye Wind's plan takes profits into consideration more than the welfare of the environment, and isn't welfare of the environment the whole reason Buckeye Wind wants to install utility-scale turbines in the first place? Thank you for your time, and please require Alternative A for the operation of the proposed wind installation.	0047-1 to 0047-5
Kerns et al.	None	FWS-R3-ES-2012-0036-0093	See letter.	0093-1 to 0093-10

Commenter Last Name, First Initial	Commenter Organization	Document ID	Original Comment	See Itemized Comments (Section 2)
Kurtz, G	None	FWS-R3-ES-2012-0036-0011	I'm asking you to consider MORE protection for the Buckeye wind project. Champaign County farmers will have a lot of additional costs for increased pesticides or whatever needed because of all the bats being killed from the turbines and white noise syndrome. I request this project be denied..it's unwanted...inefficient..and a TERRIBLE waste of money! Thanks you for your consideration, Grace Kurtz	0011-1 to 0011-2
Landolfo, M	None	FWS-R3-ES-2012-0036-0073	To Whom it May Concern: I am a resident of Urbana,Ohio in Champaign County. It is a beautiful place to live. We have been so fortunate. I have learned that setbacks for the proposed wind turbines in Champaign County are less than 1000 feet from non-participating neighbors. I have also studied the layout of the wind turbines in the proposed Buckeye Wind project. These turbines are scattered throughout our beautiful landscape. This is unexceptable. I have lived in California where wind turbines are in a straight line up and away from all residences, These turbines were not scattered all over the area with no regard for people. The Buckeye Wind Project has no regard for the citizens of Champaign County. Wind Turbines would absolutely ruin this area in more ways than one. The list is as follows: 1) Unsafe setbacks 2) Health of residents 3) Ruin Landscape and surrounding beauty of our county throughout the entire county. Please review the proposed plan and you will see that it is a bad plan and does not belong in a populated rural county. Thank You for your time.	0073-1 to 0073-4
Lindsay (no last name provided)	None	FWS-R3-ES-2012-0036-0085	I support the plan as laidout by Bukeye Wind to protect and enhance wildlife while protecting our environment. The Buckeye Wind Project will benefit our community and our nation.	0085-1 to 0085-2
Mary Jo (no last name provided)	None	FWS-R3-ES-2012-0036-0079	The area intended for this 'wind farm' is highly residential and the impact on those within close proximity of these 500+ foot turbines is extreme. Difficulties directly related to the reckless and irresponsible short setbacks suggest a high potential for "Wind Turbine Syndrome" (http://windwisema.org/about/noise/wind-turbine-syndrome-and-vibroacoustic-disease/). In addition, the danger to local wildlife is imminent. The detrimental effect on the "Indiana Bat" will lead to an increase in mosquito and pest population. The increase in mosquitoes and insects will therefore lead to a higher need for pesticides and insecticides in this highly agricultural region. Champaign County, Ohio, is not an appropriate location for a wind farm of this magnitude.	0079-1 to 0079-4
Mc Connell, D	None	FWS-R3-ES-2012-0036-0091	See letter..	0091-1 to 0091-10
McCarty, B	None	FWS-R3-ES-2012-0036-0032	Everpower has spent a lot of effort on this plan. There was a two and a half month study of the bat activity on my property alone. This included putting up and monitoring of several bat boxes that took readings on bat activity by sound. This was in addition to their work with the USFWS. I feel they put forth a lot of time and effort to make this a good plan to protect the environment. I support the Buckeye Wind Project,	0032-1 to 0032-2

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McCarty, S	None	FWS-R3-ES-2012-0036-0031	I support Buckeye Wind Power Project in Champaign County. I think they are doing a great job with the environmental impact and should be allowed to continue with the project. EverPower has worked with the USFWS for over a year to develop the first Indiana Bat Protection Plan in the US. Local wildlife will benefit from the Buckeye Wind Project and the proposed plan.	0031-1 to 0031-2
McDavid, B	None	FWS-R3-ES-2012-0036-0046	To whom t may concern, I am writing to express my concern with the Buckeye Wind Project's proposal to destroy bats in our area. By protecting bats in other areas, it appears that a no net loss plan is globally acceptable, but the truth is that our local environment will suffer dramatically. Too many bats here will be lost because Buckeye Wind will do nothing to mitigate the killing. Killing bats, not just the endangered Indiana bat, but other species as well, will upset our local ecosystem by eliminating a major predator of flying insects. This in turn will cause the number of mosquitoes and other flying insects to swell, impacting my family's and neighbors' ability to enjoy outdoor activities such as golf and horseback riding within the footprint of the wind farm. Even an evening spent on the patio or a day working in the yard will not be the same for more than 1000 families in the immediate area. The spread of disease will also surely be affected. The loss of bats is just one of many negative impacts of the wind farm on our area. Please consider that the local bat population and the residents of Champaign County will suffer directly as a result of Everpower's current proposal. Please protect our local environment and people by demanding more of the Buckeye Wind project.	0046-1 to 0046-4
McDavid, S	None	FWS-R3-ES-2012-0036-0056	There is no question that wind turbines kill bats. Without a strong bat population, the insect population will surge, thus affecting the health and quality of life of the people who live in the area. The majority of whom, adults and children, spend a great deal of their time enjoying and working outdoors all hours of the day and night. Without our bat population, we would be forced to use greater amounts of pesticides/insecticides which are expensive and unsafe. If not, adults and children are at great risk of disease, specifically West Nile Virus which is carried by infected mosquitos. West Nile Virus has caused numerous deaths across our nation. The number of deaths this year were the highest ever, even with public education about the disease. Without a strong bat population, deaths would multiply. The welfare of our community is at risk without sustaining our bat population, and sustaining our environment.	0056-1 to 0056-3

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Mohr, J	None	FWS-R3-ES-2012-0036-0081	Local Governments & Federal Agencies alike need some direction as to what should be included in some of their ordinances, recognizing some of the impacts that are out there on wind and that we all need to find out what those impacts might be. I can't understand why Greenies who claim to want to save the environment also want to cover beautiful landscapes (and seascapes) with these ghastly things. . Save the planet? Who for? Not for people who will have their views ruined, and not for birds and bats (the latter being a protected species). Who'll help protect them if not your agency?? One should collect all of the dead bodies of all birds and bats from around all wind farm sites and send them to Greenpeace or just leave them inside the doors of their offices. As stewards of our surrounding environment, how can we allow such senseless killings? Not just senseless but potentially detrimental to our eco system through the loss of beneficial bats and birds alike? One of the worst facts about industrial wind turbines is not the money or subsidies but the disgraceful environmental legacy they will leave us with in 30 years. Is it so wrong to ask that wind farms be studied and investigated a bit more before being erected with all the current stats & facts these behemoths' are doing and their true impact on the surrounding environment, wildlife, bats & birds? Is it not our great responsibility to be the keepers of our environment as best as we can and protect our resources through best practices??? Everpower Preferred Alternative poses an unacceptable risk to the Indiana bat and other species in the target area. The USFWS should select the No Action alternative and deny the requested ITP. As a second option, I feel that the USFWS should require at minimum that Buckeye Wind project operate under Alternative A (Maximally Restricted).	0081-1 to 0081-7

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Monnin, B	None	FWS-R3-ES-2012-0036-0042	I am writing in regards to the Endangered Species Act (ESA) prohibits the "take" of certain bat species thru direct harm or habitat destruction. It is my understanding that the ESA also allows the U.S. Fish and Wildlife Service to issue Incidental Take Permits for the "incidental" take of endangered and threatened wildlife. We live in Shelby County, Ohio where a wind farm is being proposed and we are aware of numerous species of endangered species of birds and bats that live in our area and we want to ensure they are around for many years. The adverse affects that a wind farm has on the birds and bats habitat will greatly affect the population in our area. It is irresponsible to knowingly extinct any endangered animal. The wind turbines have shown to reduce bat population and bats are extremely helpful in controlling insects, with fewer bats more pesticides are likely to be required, potentially increasing the cost of food and contaminating our water supply. We grow a large organic garden and don't use pesticides on our property. We have a bat house on our property to help reduce insects and we use beneficial insects. In addition, there have not been enough long term studies that show the affects wind farms have on these endangered species and would like to see more independent studies on the impact industrial wind turbines have on the bat and bird population prior to any wind turbines being erected. Finally, if a wind development is to proceed, only a portion should be constructed and a post construction mortality survey must be performed, by an independent company, for the bat and bird population for two years prior to any further wind turbine development/siting in the area and paid for by the energy company (not my tax dollars).	0042-1 to 0042-4
Mullenhour, K	None	FWS-R3-ES-2012-0036-0084	I would like to voice concern over the proposed location of the Buckeye Wind facility due to significant risk of death or injury to the Indiana Bats, specifically with regards to their migration route and summer population in this area. From personal research, the current proposed turbine siting setbacks does not ensure proper protection of the Indiana bats and more appropriate setbacks should be enforced, including: turbine siting setbacks five miles from known capture-roost sites and ten miles from hibernacula,siting turbines to avoid shadow flicker on known Indiana bat maternity colony locations, and a ban on clearing of forests, The U.S. Fish and Wildlife Service should select the No Action alternative and deny the requested ITP. In the alternative, the U.S. Fish and Wildlife Service should require that the Buckeye Wind project operate under Alternative A (Maximally Restricted Operations). Thank you for taking my comments into consideration on this very important topic.	0084-1 to 0084-2

Commenter Last Name, First Initial	Commenter Organization	Document ID	Original Comment	See Itemized Comments (Section 2)
Non Provided	None	FWS-R3-ES-2012-0036-0082	I am writing to ask for your help in preserving the wildlife surrounding our home. We live on a small farm between Woodstock and Mechanicsburg within the proposed area for the wind turbines. There are many nights during the summer that my family spends outside enjoying our wooded acreage that has a wetland and waterway running through it. It is a habitat for many bats. We see numberous bats flying around while we are out at dusk. At first my children were unsure of these creatures but through lots of education have now come to understand their importance to our ecosystem. Throughout this summer I felt even more comfort knowing they were here with the increasing number of West Nile cases. We are surrounded by many crop fields and other forms of agriculture. There is no doubt in my mind how beneficial these creatures are to our farmers. I fear if the wind companies are not held to high standards of protecting these raptors then there will obviously be adverse affects. I have to believe that a "green energy" company would have the upmost concern for their impact on the environment around them. Their commitment to creating "clean energy" would seem less than sencere if they ask for the lowering of standards of protection for those who live around their turbines. Our well water is susceptible to whatever flows near by through our waterway. If bats no longer control pests, farmers will be forced to use more chemicals to protect their crops. In turn, my well and my family will receive the high levels of run-off from the surrounding farms. We have all grown up in this area and hope to continue raising future generations here. Please help defend our health, our home and the bats and other raptors who are doing such a great job of naturally protecting our environment.	0082-1 to 0082-5
None provided	None	FWS-R3-ES-2012-0036-0006	We request that the project be denied or alternatively , that Buckeye Wind project operate under Alternative A (maximally Restricted Operations).	0006-1

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None provided	None	FWS-R3-ES-2012-0036-0037	The Everpower Buckeye Wind project will affect more than 1000 families who live inside the proposed project footprint. These families and their neighbors enjoy the benefits of rural residential living and that includes being outdoors and enjoying outdoor activities. A Buckeye Wind consultant claims it is inevitable that the Indiana bat will be eliminated in the Midwest Recovery Unit because of the spread of White Nose Syndrome--therefore (they reason), it matters not how many Indiana bats are killed by the Buckeye Wind project. Using this as an excuse to write off the species is contrary to the purpose of the Endangered Species Act. Conversely, the threat of White Nose Syndrome heightens the importance of protecting the life of every Indiana bat. And if there are no bats, in order to enjoy outdoor activities, Champaign County residents will be forced to use pesticides and insecticides. Everpower proposes to employ one of the least restrictive strategies to protect bats because they feel the cost to employ more protective alternatives is too much and will reduce their profits. But then what remains is COST--the cost to our families, our children, our pets, our livestock, our crops--these costs are financial and environmental. The Everpower Preferred Alternative poses an unacceptable risk to the Indiana bat and other species. USFWS should select the No Action alternative and deny the requested ITP. In the alternative, the USFWS should require that the Buckeye Wind project operate under Alternative A (Maximally Restricted.)	0037-1 to 0037-3
None Provided	None	FWS-R3-ES-2012-0036-0055	I attended the meeting at the Community Center and I feel Buckeye Wind Project and USFW have been and are still working closely to enhance wildlife and provide an improved environment for wild life and people. Let's all come together.	0055-1
Norris, J	Ohio Dept. Natural Resources (ODNR)	FWS-R3-ES-2012-0036-0090	See letter.	0090-1 to 0090-11

Commenter Last Name, First Initial	Commenter Organization	Document ID	Original Comment	See Itemized Comments (Section 2)
Park, C	Piqua Shawnee Tribe	FWS-R3-ES-2012-0036-0074	THE PIQUA SHAWNEE TRIBE HAS BEEN WORKING WITH THE EVERPOWER CORPERATION SINCE PHASE 1 OF THE PROJECT WAS STARTED. WE ARE CONCERNED WITH THE MANY INDIAN MOUNDS THAT EXIST ON OR AROUND ANY TURBINE CONSTRUCTION SITES FOR PHASE 1 AND 2. THE FOLKS FROM EVERPOWER HAVE HELPED US IN ANY WAY THEY COULD TO PROTECT OUR ENDANGERED NATIVE AMERICAN MOUNDS AND EARTHWORKS THAT ARE THOUSANDS OF YEARS OLD. ALSO AS AN INDIAN TRIBE WE ARE ALSO CONCERNED WITH HISTORIC BURIALS SITES OF OUR RELATIVES. BEING NATIVE AMERICAN WE LIVE CLOSE TO NATURE AND WANT TO PROTECT MOTHER THE EARTH AND ALL THE CREATURES THAT ARE UPON IT. IN THIS LIGHT I HAVE BEEN IN TOUCH WITH EXPERTS AND DISCUSSED THE EFFECTS OF TURBINES ON BIRDS, BATS AND WILDLIFE IN GENERAL. WE REACHED THE CONCLUSION THAT ALTHOUGH THE TURBINES WOULD HAVE SOME NEGATIVE EFFECT ON THESE CREATURES, IT IS MUCH BETTER THAT THE SITE'S BE LOCATED IN FLAT FIELDS VS RIDGES AND HIGH AREAS WHICH TEND TO STEER MIGRATING FLOCKS AND OTHER BIRDS, DIRECTLY INTO LARGE TURBINE LOCATIONS. I HAVE LIVED IN CHAMPAIGN COUNTRY FOR MANY YEARS AND FINDS THAT EAGLES COME THOUGH THE AREA, ONLY WHEN GOING LONG DISTANCES. ALSO WE HAD NO PROBLEM WITH BATS NOR OTHER BIRDS IN THE PAST. SO IN GENERAL ,I SEE NO PROBLEM WITH THE INSTALLATION OF WIND TURBINES IN THE AREA. I ALSO FEEL THAT IF PROBLEMS WERE TO OCCUR, THAT EVERPOWER WOULD PUT EVERY EFFORT INTO FINDING A SOLUTION.	0074-1 to 0074-7
Peace, L	None	FWS-R3-ES-2012-0036-0048	If you issue a permit to Buckeye Wind PLEASE make it a conditional use to help protect the bat population.Shut down at night when the bats are active. White Nose Syndrome is killing them fast enough without wind turbines help. The bats are worth a lot more than the turbines.The bats benefit everybody by controling insects. PLEASE select the No Action Alternative and deny the ITP for Buccckeye Wind.	0048-1 to 0048-4
Pond, R	None	FWS-R3-ES-2012-0036-0072	I feel that Buckeye Wind and Everpower are doing a great thing by protecting the Indiana Bat. They have gone the extra mile. I feel that WIND ENERGY is the way of the future and we need to make sure we are progressing in that direction.	0072-1 to 0072-2

Commenter Last Name, First Initial	Commenter Organization	Document ID	Original Comment	See Itemized Comments (Section 2)
Pullins, J	None	FWS-R3-ES-2012-0036-0043	As a Champaign County land owner I am deeply committed to the ecology of the area. It is an area that I consider to be blessed with abundant wildlife, which I see as an asset to the community. It is my strong belief that the Habitat Conservation Plan (HCP) presented by Everpower is the right tool to protect our local wildlife, including the Indiana Bat. Everpower's willingness to develop this plan with the input of the U.S. Fish & Wildlife Service (Service) shows the great respect that the Company has for the community and its natural resources. The plan created by Everpower and the Service will prevent an appreciable loss of the endangered species, while also providing a strategy that can adapt to the changing needs of tomorrow. In reviewing the plan you will see that the collaboration between the developer and the Service resulted in a sound, practical, balanced plan which enables clean energy production. This clean energy production will displace hydrocarbon based energy that leads to pollution and wildlife habitat destruction. Furthermore, I see no negative effects of the HCP on local residents. The plan will limit the impact of taking on the wildlife population, and therefore will not result in a noticeable change in wildlife activity for the local residents. The plan is both good for the local wildlife and the local residents, and I strongly recommend that the Service issue the Incidental Take Permit requested by Everpower.	0043-1 to 0043-4
Pullins, Matthew	None	FWS-R3-ES-2012-0036-0022	To whom it may concern, I strongly support the Buckeye Wind Project project's proposed Habitat Conservation Plan and Incidental Take Permit for the Indiana Bat as submitted to the U.S. Fish & Wildlife Service (USFW) in May 2012. Everpower, the Buckeye Wind Project's developer, has gone to great lengths in establishing a plan that protects our natural resources, including wildlife of all types. The developer worked with local USFW authorities for over one year to identify means of minimizing wildlife impact, including any impact upon the Indiana Bat, serves as evidence to the rigor and thoughtfulness offered in the plan submitted for consideration. In reviewing the plan you will clearly see the collaboration between the developer and the agency resulted in a sound, practical, balanced plan which enables clean energy production while creating a net environmental and wildlife benefit vis-à-vis traditional hydrocarbon based energy. I look forward to seeing the proposed wind project built in Champaign County, Ohio. Your objective consideration of the facts in this matter, which will result in the approval of the plan as proposed, will be most beneficial in enabling the community and our environment to realize the benefits the project will yield.	0022-1 to 0022-4
Pullins, Mike	None	FWS-R3-ES-2012-0036-0017	To Whom It May Concern, Buckeye Wind has been diligent in its effort to protect the Indiana bat in its Draft Environmental Impact Statement and Habitat Conservation Plan. Buckeye Wind has worked closely with a number of agencies to perfect the plan. The proposed Buckeye Wind Project will provide immense benefits to the local community and our nation while protencting our environment. I urge you to issue the requested permit.	0017-1 to 0017-3

Commenter Last Name, First Initial	Commenter Organization	Document ID	Original Comment	See Itemized Comments (Section 2)
Rittenhouse, T	None	FWS-R3-ES-2012-0036-0060	I am concerned that the reporting is to be done by the applicant. I am concerned that a number of comments in support are made by leaseholders who in their comments do not disclose their monetary relationship to the applicant. I am in opposition to application also because bat deaths are in addition to other health issues for the bat populations, including White Nose Syndrome, whose effects are not yet completely known and understood. I am in support of Denial of the application or the use of Alternative A.	0060-1 to 0060-4
Rucker, J	None	FWS-R3-ES-2012-0036-0057	I am a resident of Champaign County in Ohio. I live on acreage close to a planned industrial turbine and in addition will daily pass a whole slew of them as I travel into Urbana. Let me state that I oppose these huge industrial wind turbines and the impact they will have on the integrity of the county that I have called home since 1972. I enjoy the outdoors, love watching wildlife in Champaign County,and oppose these industrial turbines which will upset the balance of nature, regardless of how many plans one thinks they can put in place to try to protect the natural habitat of insects and wildlife that make their home in our county. I STRONGLY OPPOSE what Everpower wants to do in Champaign County, Ohio. I believe the Everpower Preferred Alternative is an unacceptable risk to the Indiana Bat and other species. Once Everpower is given the go ahead for construction with no restrictions, or minimal restrictions, there is no turning back. Your consideration is of utmost importance. I would strongly request the U.S. Fish and Wildlife select the NO ACTION ALTERNATIVE and deny requested ITP. In the alternative, and this is not a first choice, I believe Buckeye Wind Project should be required to operate under nothing less than what is called Alternative A (Maximally Protected). Thank you in advance for your consideration of this request. My children and grandchildren live in Champaign County. The decisions you are making at this time, which could effect the pesticides and insecticides Champaign County residents are exposed to because of disturbing the balance of nature, will be changed. Then you have to try to fix what is messed up. A wise decision is one that is completely thought out, not made for the profit of a few. I ask that you consider this request as if it were happening in your own community, next to your own home.	0047-1 to 0057-5
Salyers, M	None	FWS-R3-ES-2012-0036-0096	See letter.	0096-1 to 0096-8
Sargeant, A	None	FWS-R3-ES-2012-0036-0088	See letter.	0088-1 to 0088-13

Commenter Last Name, First Initial	Commenter Organization	Document ID	Original Comment	See Itemized Comments (Section 2)
Schaffner, M	None	FWS-R3-ES-2012-0036-0036	I would like for you to consider the comments from personal experience of living with wind turbines. Just today I could feel the throbbing on my chest from wind turbines. How will this affect the bats in question? I don't believe most people have considered how this change of pressure will affect the bats in the area. For those who have educated themselves about this change in pressure know what happens to a bat. How many bats can we stand to lose? As a Farmer I say we have lost enough. How far out of balance are we going to permit our eco system to become before we realize the harm we have done. Our First Lady is trying to get all to eat healthier. I can tell you that the extra spray needed to control pest in our fields is getting out of hand. Why do labels on our spray give dead lines on timing of use? It's because it will carry over into the harvested crop. I know of farmers who do not always follow the guidelines. So we now have chemicals entering the food chain, and THAT IS NOT what our First Lady has in mind as healthy food. For this reason I ask that the proposed wind project be denied.	0036-1 to 0036-5
Schneider, M	None	FWS-R3-ES-2012-0036-0049	Please consider carefully the impact this operation will have on on our enviroment. the bat population is so critical to controlling insects. I ask that this project be made to adhere to very strict restrictions concerning its location and operation. Natures way is always better than any man made control of insects. We must preserve and protect.	0049-1 to 0049-3
Serr, G	None	FWS-R3-ES-2012-0036-0083	I am writing to request that the USFWS refuse the incidental take permit and select the no action alternative. Additionally, I am requesting that the Buckeye Wind project be mandated to work under Maximal Restricted Operations.	0083-1
Stadler, S	None	FWS-R3-ES-2012-0036-0007	As a resident of Champaign County and a farmer and horse owner, I fear the unintended consequences that may occur with the installation of wind turbines in and near habitat for bats, particularly the Indiana bats. We are lucky to have them summering and roosting in and near the area proposed for wind turbines. They are effective in reducing our insect population, decreasing the need for chemical pesticides on our crops. Also, during this summer of record West Nile Virus occurances in Ohio, I have not heard of a problem in Champaign County. As a steward of the land, I have seen many unintended consequences from not doing full due diligence when introducing something new in the environment. We have spent thousands of dollars removing invasive honeysuckle from our property. Autumn Olive was promoted for wildlife habitat and erosion control, and is also now invasive. Both of these crowd out native species and dramatically change the landscape and hospitality of the land. Asian Lady Beetles were introduced to control aphids, and now seem to control our houses. All of these are unrelated the the wind turbines, but are examples of undesirable effects of actions taken without considering all consequences. I urge the U.S. Fish and Wildlife Service to deny the ITP due to unacceptable risk to the Indiana bat and other wildlife.	0007-1 to 0007-3
Staley, G	None	FWS-R3-ES-2012-0036-0065	I support the plan as laidout by Bukeye Wind to protect and enhance wildlife while protecting our environment. The Buckeye Wind Project will benefit our community and our nation.	0065-1 to 0065-2

Commenter Last Name, First Initial	Commenter Organization	Document ID	Original Comment	See Itemized Comments (Section 2)
Sullinger, R	None	FWS-R3-ES-2012-0036-0024	I live near the area where Indiana Brown Bats exist. I understand that they are endangered and that Wind Turbines may effect their lifestyle. However, there is most likely the possibility that they can and will adapt to whatever effect that Wind Turbines may creat. There is infrastructure in our area for the building and maintance of Windturbines. This has created jobs and will mean more work in the future. There is also the potential of wind generated power causing less need for the consumption of fossil fuels thereby creating the possibility of saving some other endangered species in this country or in this world.	0024-1 to 0024-3
Thoma, J	None	FWS-R3-ES-2012-0036-0078	We live in a semi-rural area because we enjoy country life. That means we live surrounded by fields of crops, sometimes get stuck behind combines and farm equipment on the road, and have wildlife in our yard, including bats. It appears that not protecting the bats that we have from the proposed wind turbines may be a costly mistake, leading to an increased need for pesticides (increased cost to farmers), which in turns creates the likelihood of more toxic run-off into our streams. The already endangered bats are useful and needed and should not be carelessly endangered even more so a relatively small number of investors can make more money, while those of us who live in the area get to pay the price. We request that the project be denied or, alternatively, that the Buckeye Wind project operate under Alternative A (Maximally Restricted Operations).	0078-1 to 0078-4
Tullis, A	None	FWS-R3-ES-2012-0036-0023	Buckeye Wind has gone above and beyond taking steps to provide safe habitat for all the living creatures in the Champaign County area. The habitat conservation plan for the Indiana Brown Bat is proof of the commitment Buckeye Wind as for the community. Keeping the Indaina Brown Bat save is extremely important for the balance of nature.	0023-1
Uetrecht, D	None	FWS-R3-ES-2012-0036-0015	To whom it may concern: I strongly feel that Buckeye Wind, if they eventually operate wind turbines noted in this project, operate at least under the restrictions detailed in "Alternative A". There is no reason to allow an enterprise like this to circumvent human and wildlife protections that have been enforced in the past and would surely also be enforced in the future, for other personal and commercial endeavors different from this. There have already been allowances made, before much public notice was taken, which I believe have set the stage for negative safety, environmental and economic conditions in the proposed zone. The sponsor of this wind project will do what it can to positively affect its bottom line, with much less concern for the area and the potential negative effects form the project during construction and operation. This energy concept, if it is economically, environmentally and finalcially sound, should be able to stand on it's own legs. As we all well know, it is already being heavily artifically supported by government financial assistance. We should not continue this wrongdoing by allowing Buckeye Wind to now circumvent or operate under loosened protections the wildlife and the associated environment.	0015-1 to 0015-4
VanHoose, C	None	FWS-R3-ES-2012-0036-0035	Bats in are community are VERY important to our environment. With the rural areas that we live in BATS are the balance in our insect population. This take permit must be denied do to the direct negative environmental impact on our community.....	0035-1 to 0035-2

Commenter Last Name, First Initial	Commenter Organization	Document ID	Original Comment	See Itemized Comments (Section 2)
Walker, C	Union Neighbors United, Julia F. Johnson, Robert and Diane McConnell	FWS-R3-ES-2012-0036-0089	See letter.	0089-1 to 0089-17
Wampler, J	Dove of Ohio, LLC	FWS-R3-ES-2012-0036-0018	As the managing member of a LLC that owns land in Champaign County, Ohio, I would like to lend my support to the Everpower wind power project. Wind certainly is the best non-polluting form of energy available, emitting far less pollution than other forms of energy producers. Being safe for both humans and wildlife, the project will generate power for the area, create jobs, and put money back in the region, especially to the area schools. After all the studies and reports that have been reviewed and analyzed, It would seem to me, in this time of enviromental concern and economic stress, that approval of this project would be the logical thing to do, not only for the present, but for future generations.	0018-1 to 0018-3
Weeks, V	None	FWS-R3-ES-2012-0036-0038	As a birdwatcher, I find wind turbines environmentaly invasive. They invade both the ground and the air column which is the highway for all winged creatures. Winged creatures do not have excess body fat in migration to avoid wind turbine arrays. These machines have the capacity to kill year after year. Bats play an important roll in our environment and prevent excessive use of pesticides.They are already being affected by white nose syndrome. The USFWS has an obligation to choose the most stringent form of protection for endangered species and to prevent other winged species from demise. The Everpower Preferred Alternative poses an unacceptable risk to the Indiana bat and other species. U.S. Fish and Wildlife Service should select the No Action alternative and deny the requested ITP. In the alternative, the U.S. Fish and Wildlife Service should require that the Buckeye Wind project operate under Alternative A (Maximally Restricted).	0038-1 to 0038-7
Westfall, M	None	FWS-R3-ES-2012-0036-0044	I am submitting as both an individual and a local official, township trustee for Rush township Champaign County. Our township could have several turbines and we are one hundred percent behind renewal energy construction. From an individual perspective I think we should do our best to protect the ecosystem, including the brown bat, but my children and grandchildren will need renewal energy to maintain a standard of living we now enjoy. Compared to coal mining,nuclear generation, and foreign energy an occasional brown bat is a acceptable trade off. Solar energy and natural gas are other options but solar is not as developed and less reliable than wind in the midwest and natural gas involves fracking which may have far reaching implications. Thank you for your consideration.	0044-1 to 0044-4
Westlake, K	EPA	FWS-R3-ES-2012-0036-0095	See letter.	0095-1 to 0095-7

Commenter Last Name, First Initial	Commenter Organization	Document ID	Original Comment	See Itemized Comments (Section 2)
Wildermuth, J	None	FWS-R3-ES-2012-0036-0052	To whom it may concern: I recently learned that our federal and state governments are issuing permits to kill birds and bats via wind turbines. As a former biology teacher, I find this an atrocious act by our government and by any organization that is committed to preserving wildlife. As a farmer and biologist I know that bats, especially, are much needed to lessen the use of pesticides, This kind of irresponsibility (to allow incidental killing of bats) would also affect the livelihood of my neighbors and myself. We would have to spend more on pesticides. This pesticide increase could also jeopardize the health of anyone who consumes food. The bat population is already fighting for its very life due to a fungal attack. Please do not issue permits to these wind turbine companies who only exist because we, the taxpapers, are subsidizing something that is inefficient (such as - most of us would like to have electricty even when the wind is not blowing), expensive (countries such as Denmark who depend on wind energy pay much more of electricity than the US does), etc. Please do not allow these companies, such as Buckeye Wind Power Project, to allow this devastating blow to our environment. Projects, such as this, will be instrumental in upsetting the precious balance of nature.	0052-1 to 0052-6
Wildermuth, R	None	FWS-R3-ES-2012-0036-0025	Currently, Everpower is not being required to do what must be done in the interest of the welfare of wildlife and farms that help to create the national food supply. Bats are critical to insect control, and there are a significant number of Indiana and other types in this Action Area. The Action Area even includes maternal roosts and migratory routes, so this project would likely destroy this population. That results in an upswing in the mosquito and agricultural pests, requiring greater amounts of pesticide, something that not only endangers farms financially but also may endanger health. We already hear that pesticides' cumulative effects cause numerous health issues in consumers. If we just consider mosquitoes, without bats, in a wet year and when the previous winter was mild, we can even be looking at the need for pesticide just to moderate West Nile and possibly malaria risks. How can we risk an entire area's population of a species in the name of a very expensive energy venture which is experimental, at best?	0025-1 to 0025-3

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September 24, 2012

Public Comments Processing
Attn: FWS-R3-ES-2012-0036
Division of Policy and Directives Management
U.S. Fish and Wildlife Service
4401 N. Fairfax Drive
MS 2042–PDM
Arlington, VA 22203

RE: Comments on the Buckeye Wind LLC Draft Habitat Conservation Plan and Draft Environmental Impact Statement for the Indiana Bat in the Ohio Wind Project

The Ohio Farm Bureau Federation (OFBF) is pleased to provide comments requested by the United States Fish and Wildlife Service (USFWS) concerning its evaluation of Buckeye Wind LLC's draft Habitat Conservation Plan (HCP) and Environmental Impact Statement as part of an application for an Incidental Take Permit concerning the *Myotis Sodalis* or Indiana bat. These comments are in response to FWS-R3-ES-2012-0036.

OFBF is a member organization whose mission is to forge partnerships between producers and consumers. Next to labor, energy is the largest single cost input in many farm and small business operations. Consumers living in rural, suburban and urban neighborhoods are looking for opportunities to control their energy costs. Farm Bureau members support the development of a diversified energy portfolio that employs a variety of fuels and technologies (advanced coal, nuclear and renewable) that help consumers create options to control their energy costs. Many members support creation of large scale renewable energy development projects as a vital part of rural economic development.

OFBF had the opportunity to work closely with a variety of stakeholders as a member of the Ohio Department of Development (ODOD) Ohio Wind Working Group from 2007 to 2010. Organization leaders worked with wind developers, citizens groups, ODNR-Division of Wildlife and USFWS representatives to focus on several environmental issues this HCP approval process is addressing today.

We understand that Buckeye Wind LLC proposes to construct and operate up to 100 wind turbines and associated facilities for 30 years in eastern Champaign County, Ohio. While approximately 80,500 acres are within the Buckeye Wind Action Area, about 130 acres will be used to accommodate wind turbines, access roads, transmission and maintenance facilities.

0028-1

Creation of the first project has been approved by the Ohio Power Siting Board (OPSB). The company was issued a *Certificate of Public Need and Necessity* that involved both public and judicial hearings allowing the applicant, citizens groups and local government opportunities to examine and discuss a variety of environmental, aesthetic and economic issues. OFBF participated as a party of first record in these proceedings. Information concerning these evaluations can be found in OPSB Case #08-0666-EL-BGN.

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0028-2 Buckeye Wind LLC is in the process of having the second project approved. Again, the applicant, citizens groups and local government have opportunities to examine and discuss issues concerning the project. OFBF has been recognized as a party of record in these proceedings also. Information concerning these evaluations can be found in OPSB Case #12-0160-EL-BGN.

0028-3 Habitat for *Myotis Sodalis* is found throughout the Buckeye Wind Action Area. Construction, operation, maintenance and decommissioning may have the potential to harm, harass or kill specimens of this endangered species.

0028-4 Buckeye Wind LLC's HCP was created in accordance with Section 10 of the Endangered Species Act. The plan addresses conservation needs for the Indiana bat, including measures to avoid and minimize takings. Mitigation strategies protecting and enhancing existing habitat, monitoring takings through post-construction mortality studies and adaptive management steps are presented. Moreover, the company will fund research to better understand Indiana bat and wind turbine interaction.

0028-5 While all turbines in the project will be built in open farm fields that are not considered by many experts as prime habitat for *Myotis Sodalis*, many of the woodlots, tree lines and fence rows linking farm fields throughout the area could be.

0028-6 Monitoring mortality rates will include surveying open farm ground where issues concerning soil compaction and crop damage could be a concern.

0028-7 Farm Bureau leaders will work with the wind developer, USFWS personnel, researchers and other interested parties to create effective strategies where HCP objectives can be achieved. These efforts could include education/outreach projects and cooperation agreements between all stakeholders.

0028-8 We understand that the USFWS evaluated several case scenarios as part of its evaluation process. Options focusing on minimal and maximum operational restrictions, as well as "no action" alternatives were explored. OFBF policy supports the proposal whereby USFWS issues a permit specifying modified turbine operations, as described in Buckeye Wind LLC's HCP.

0028-9 Striking a balance for energy and environmental policy, the USFWS and Buckeye Wind LLC have an opportunity to create a process where communities can invest in a diversified energy portfolio while addressing needs for effective wildlife habitat.

0028-10 What can be established in Ohio can be repeated in other states. We look forward to working with you as this process continues.

Thank you for your time and consideration.

Sincerely,

John C. Fisher
Executive Vice President
Ohio Farm Bureau Federation

CC: Ohio Congressional Delegation
Ohio Farm Bureau Board of Trustees

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Comments on Draft EIS and Draft HCP for Buckeye Wind Facility

September 26, 2012
Public Comments Processing
Attn: FWS–R3–ES–2012–0036
Division of Policy and Directives Management
U.S. Fish and Wildlife Service;
4401 N. Fairfax Drive, MS 2042–PDM
Arlington, VA 22203

Electronic submission: (receipt verification requested);

Dear Ms. Seymour and Mr. Amidon:

We offer these comments on both the Draft National Environmental Policy Act Environmental Impact Statement ("DEIS") and the Draft Habitat Conservation Plan ("DHCP") for the Buckeye Wind Facility project (the "Project") in Champaign County, Ohio.[1] The Conservation Law Center is a nonprofit public interest law firm located in Bloomington, Indiana. Our mission is to help clients solve natural resources conservation problems, to work to improve the body of conservation law and policy, and to educate law students.

The comments below are organized as follows. We have grouped our comments into 7 sections reflecting main topics. Within each topic section, we provide comments on the DEIS, if applicable, and on the DHCP separately, if applicable, taking care to avoid duplication. For some topic sections, comments may refer to only the DEIS or only the DHCP.

[1] 77 Fed. Reg. 38819 (June 29, 2012).

1
DELINEATION OF ACTION AREA

DHCP/ESA

0030-1

COMMENT 1.1. THE EXPLANATION OF THE "ACTION AREA" OF THE PROJECT IS INADEQUATE.

The DHCP does not clearly explain how the proposed action area was determined. The action area should be delineated based on potential impacts to the Indiana bat (and possibly other species of concern). Determining the scope of an action area requires application of scientific methodology and the agency must explain the "scientific methodology, relevant facts, or rational connections linking the project's potential impacts" to the action area boundaries to enable a reviewing court to determine whether the action area was properly conceived.[2] The DHCP's explanation of how the action area was delineated is scattered throughout the document and is described in vague language. Thus, it is difficult to determine whether the delineation is consistent with ESA regulations.

The DHCP describes the action area of the Project as follows (emphasis added):

> [Page 1:] The Project will be situated within an approximately 32,395 hectares (ha; 80,051 acres [ac]) area that includes portions of Union, Wayne, Urbana, Salem, Rush, and Goshen Townships in Champaign County, OH (referred to hereafter as the Action Area; Figure 1-1). Within the Action Area, the permanent footprint (the area of permanent disturbance) for the entire Project will be no more than 52.5 ha (129.8 ac), or 0.16% of the total Action Area. Development of the Project will include installation of up to 100 wind turbine generators (turbines), each with a nameplate capacity rating of 1.6 megawatt (MW) to 2.5 MW, resulting in a total generating capacity of up to 250 MW. The Project will also include development of service roads, electricity collection lines, staging areas, and an operations and maintenance (O&M) facility.
>
> While only 52 turbine locations are known at this time, the HCP will address impacts to Indiana bats from the construction and operation of the full 100-turbine Project with expected lifespan of 30 years from construction through decommissioning (ITP Term; see Section 2.4 – ITP Duration). The location of the additional 48 turbines will not significantly change the net effect on the species and the level of authorized take described in this HCP will not be greater.

[2] Native Ecosystems Council v. Dombeck, 304 F.3d 886, 902 (9th Cir. 2002).

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[Page 4:] Though no known Indiana bat hibernacula are located within the Action Area, summer resident Indiana bats are known to occur within the Action Area and vicinity. Bat mist-netting surveys were conducted in the summer of 2008 within an area that included the current Action Area in Champaign County and an area to the north extending into Logan County ("initial study area"; see Figure 1-2). These surveys documented the presence of Indiana bats approximately 7.8 km (4.8 mi) to the north of the current Action Area. Two reproductive adult female and 1 non-reproductive adult male Indiana bats were captured as part of the 2008 survey. *The initial study area was revised to be at least 8 km (5 mi) from the 2008 Indiana bat capture and roost locations and then further expanded, creating the current Action Area.* The current Action Area also avoids caves supporting other species of bats (not Indiana bats) during hibernation (see Section 3.2.3 – Pre-Construction Bat Surveys Conducted).

[Pages 165-166:] In the summer of 2008, during Tier 3 studies, a new summer colony of Indiana bats was discovered in the initial study area in Logan County. Based on this finding, in consultation with the USFWS, *Buckeye Wind reduced the area of proposed turbine development to avoid potential impacts to Indiana bats (see Section 1.1 – Overview and Purpose of the HCP and Figure 1-2), resulting in the current Action Area.* Because the Action Area was more than 8 km (5 mi) away from the nearest capture site for Indiana bats, it appeared that impacts to Indiana bats were sufficiently avoided and Buckeye Wind, in consultation with the USFWS and ODNR, made a decision to proceed with the Project within the current Action Area. Buckeye Wind then proceeded to develop an application for a CECPN for approval through the OPSB in 2008-2009.

Despite thorough pre-planning, prior bat surveys within the Action Area that did not detect Indiana bats, due diligence, and ongoing consultation with the USFWS and the ODNR DOW, *Indiana bats were unexpectedly discovered in the Action Area in summer 2009. The discoveries were made in the northern part of the Action Area* during mist-netting surveys conducted by another entity as part of site evaluations for an unrelated wind project. *Due to these discoveries, Buckeye Wind determined that it was appropriate to enter into discussions with the USFWS to seek an ITP under Section 10 of the ESA.* Furthermore, research (Arnett et al. 2010, Baerwald et al. 2009 and Good et al. 2011; see Table 6-1) indicates that specific avoidance and minimization methodologies are effective in reducing direct and indirect impacts to bats from wind projects, making it likely that an HCP could be developed that would allow the Project to be built while avoiding and minimizing impacts to Indiana bat populations. The following sections describe additional measures that will be taken by Buckeye Wind to avoid impacts to Indiana bats and where those impacts cannot be avoided, how they will be minimized and mitigated, to the maximum extent practicable.

The DHCP should have a separate section titled "Action Area." Within this new section the DHCP should explain, among other things, that the northern boundary of the action area was

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drawn to be at least 5 miles from the 2008 bat capture and roost sites. The DHCP should also explain whether and how the proposed turbine locations, and the action area boundary in relation to the turbine locations, were re-adjusted based on the 2009 observations. The appropriate response to the capture and roost location data is to adjust the location of the turbine locations. Simply contracting the action area boundaries, without moving the locations of the turbines, is inconsistent with the definition of an action area. The DHCP should clarify how and whether the project footprint and turbine locations were adjusted in relation to the action area boundary in response to the data.

COMMENT 1.2. THE APPARENT DELINEATION OF THE "ACTION AREA" OF THE PROJECT IS INADEQUATE.

0030-2

A. Background

ESA regulations define the term "action area" as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action."[3] The action area is not limited to the footprint of the action nor is it limited by the Federal agency's authority. Rather, it is a biological determination of the reach of the proposed action on listed species. Careful delineation and explanation of the chosen action area is important because the determination of the environmental baseline and cumulative effects are tied to the action area.[4]

B. The Action Area Must, But Apparently Does Not, Include All Potential Impacts of the Project.

The action area must be delineated such that it contains all of the direct and indirect effects of the proposed Project on Indiana bats. In other words, the action area is the entire area within which project-associated environmental effects are anticipated to occur; for instance, earth disturbance, habitat alterations, noise, flight path disruption, and physical harm. When delineating the action area of the Project, the movement patterns of Indiana bats must be considered. With respect to physical harm and disruption of the flight path, Indiana bats may travel 5 miles or more between roosts and foraging areas, depending on habitat, prey availability,

[3] 50 C.F.R. § 402.02. Section 7 of the ESA applies to the USFWS issuance of an ITP. *See* USFWS, *Habitat Conservation Planning and Incidental Take Permit Processing Handbook* (Nov. 4, 1996), pp. 6-12 to 6-14.
[4] Defenders of Wildlife v. Babbitt, 130 F.Supp.2d 121, 129 (D.D.C. 2001).

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and other factors, and may forage across several miles.[5] Thus, roosting bats found less than 5 miles from the Project's turbines potentially will be impacted by those turbines during foraging and other movements.

USFWS recommends in its 2011 Wind Energy Projects Guidance that the home range of an Indiana bat be delineated to include all suitable habitat within 5 miles of a capture location if only capture data are available; all suitable habitat within at least 2.5 miles of a single documented maternity roost tree; all suitable habitat within at least 2.5 miles of the line drawn between the two documented roost trees; and all suitable habitat within at least 2.5 miles of the center of the polygon created by connecting three or more documented roost trees.[6] To avoid and minimize incidental take, the applicant should seek to locate turbines and the remaining facility footprint outside of the home ranges of Indiana bats. If, however, any Indiana bat home ranges will intersect with turbine locations, if changes in habitat or habitat use may shift existing home ranges to intersect with turbine locations, or if new roost trees or colonies are likely to be discovered in the vicinity, the action area should be delineated to include those existing or potential home ranges. In short, using USFWS's recommended distances, while turbines should be located as far from roosts as possible, the action area should embrace any potential or observed roosts or capture sites within 2.5 or 5 miles, respectively, of a turbine because bats may be impacted by that turbine.

The DHCP provides no indication of the biological significance of the action area boundaries and no indication that this significance was considered. For example, from Figure 1-1 in the DHCP it appears that some turbines will be located less than 2.5 miles from the boundary of the action area.[7] The action area boundary should be at least 5 miles from any turbine. If any maternity colonies or roost trees exist (potentially undetected) just across the boundary of the proposed action area and the home ranges of bats from those roosts or colonies overlap with turbines, then those bats, during their nightly activities, may be taken by those

[5] USFWS, *Indiana Bat Draft Recovery Plan* (April 2007).
[6] USFWS, *Indiana Bat Section 7 and Section 10 Guidance for Wind Energy Projects, Revised* (Oct. 26, 2011), pp. 8–13, *available at* http://www.fws.gov/midwest/Endangered/mammals/inba/pdf/inbaS7and10WindGuidanceFinal26Oct2011.pdf.
[7] *See id*. at 8–13.

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turbines (by physical harm, flight path disruption, noise harassment, etc.).[8] In fact, a roost tree found 1.5 miles outside of the proposed action area boundary in 2009 was the source of an adult female that was captured in the central portion of the action area.[9] If there is any chance that a colony or roost is less than 2.5 miles (or a bat capture less than 5 miles) from a turbine, that location must be included in the final action area.[10] Moreover, the integrity of any maternity colony across the proposed boundary but within 2.5 miles of a turbine may be affected by taking of bats that are sourced at that colony. A delineation of the action area that does not include observed or potential capture locations within 5 miles of a turbine, or colony or roost locations within 2.5 miles of a turbine, is not consistent with the regulatory definition of an action area.

The Project should first seek to avoid impacts to Indiana bats to the maximum extent practicable by locating the Project outside of the home ranges of bats. The action area should then be delineated to include those impacts to bats that cannot be avoided by such siting considerations. The HCP should evaluate the extent and timing of bat foraging, gathering, migration, and dispersal movements and should analyze how such movements influence the scope of Project impact and thus the delineation of an action area for the Project, as required by ESA regulations.

[8] USFWS has stated that most Indiana bat maternity colonies are unknown. USFWS, *Revised Programmatic Biological Opinion on the Proposed Construction, Operation, and Maintenance of Alternative 3C of Interstate I-69 from Evansville to Indianapolis* (Aug. 24, 2006), pp. 46–47.

[9] *See* DHCP, p. 6 ("An additional adult female was captured in summer 2009 in the central portion of the Action Area and was tracked to her roost tree located outside of the Action Area, approximately 2.3 km (1.5 mi) to the east of the eastern boundary.").

[10] The same consideration should be given to other forms of taking, such as noise from project facilities other than turbines.

2
BIOLOGICAL GOALS AND OBJECTIVES

DHCP/ESA

0030-3

COMMENT 2.1. THE FIRST AND SECOND OBJECTIVES OF THE DHCP REFLECT CIRCULAR REASONING.

A. Background

The DHCP states the biological goal as follows: "The biological goals of this HCP are to minimize take of Indiana bats to the maximum extent practicable and to promote the health and viability of Indiana bat populations both locally and in the Midwest Recovery Unit (RU)."[11] The following comments refer to this draft goal regardless of its validity.

USFWS's 5-Point Policy states, "In the context of HCPs, biological goals are the broad, guiding principles for the operating conservation program of the HCP. They are the rationale behind the minimization and mitigation strategies. For more complex HCPs, biological objectives can be used to step down the biological goals into manageable, and, therefore, more understandable units."[12]

0030-4

B. The Draft "Objectives" Are Inconsistent With USFWS Guidance.

The first "objective" in the DHCP is to "[i]mplement an operational feathering strategy that will limit mortality of Indiana bats due to collision with turbines or barotrauma resulting from near collisions with moving blades to no more than 26 Indiana bats over any 5-year period beginning in any year in which more than the Expected Average Mortality of 5.2 Indiana bats is estimated, and not more than 130.0 Indiana bats over the 30-year ITP Term."[13] This statement is not a biological objective; rather, it is a restatement of the proposed alternative and, thus, reflects circular reasoning.

According to USFWS's 5-Point Policy, "Conservation measures identified in an HCP, its accompanying incidental take permit, and/or IA, if used, provide the means for achieving the biological goals and objectives. . . . Biological objectives are the different components needed to

[11] DHCP, p. 9.
[12] USFWS, *Addendum to the HCP/ITP Handbook* (June 2000).
[13] DHCP, p. 9.

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achieve the biological goal such as preserving sufficient habitat, managing the habitat to meet certain criteria, or ensuring the persistence of a specific minimum number of individuals. The specifics of the operating conservation program are the actions anticipated to obtain the biological objectives[.]"[14]

It is no surprise that the DHCP claims that the proposed alternative meets the first objective – the alternative and the objective have been entirely conflated. The proposed alternative to take no more than 26 bats in a 5-year period is not a "biological" objective. Rather, it is a "management" objective. The first objective is not, but should be, based on the needs of the Indiana bat and requirements for population persistence. The second objective, which sets forth the mitigation plan, suffers from the same infirmity.

Moreover, as will be discussed more fully in the comments below, the DHCP presents no evidence that the first objective (i.e., the proposed alternative) meets the goal of minimizing take of Indiana bats to the "maximum extent practicable" and promoting the health and viability of Indiana bat populations.

If the HCP's biological goals are to be stepped down to biological objectives, the HCP must, but does not currently, present valid biological objectives based on the needs of the Indiana bat and requirements for population persistence. The biological objectives must be, but are not currently, differentiated from alternatives and management measures proposed as means to meet biological goals and objectives. In addition, the final choice of valid goals and objectives must be based on evidence referenced or explained in the HCP.

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COMMENT 2.2. THE FOURTH DRAFT OBJECTIVE REFLECTS UNSUPPORTED CONJECTURE.

The fourth "objective" of the DHCP is to "maximize operational output of the project, such that the environmental benefits of wind energy are maximized, thereby reducing potentially harmful effects of other energy projects."[15] This "objective" has three major flaws.

First, any suggested link between maximizing operational output of the Project and "maximizing the environmental benefits of wind energy" or "reducing potentially harmful effects of other energy projects" is entirely unsupported conjecture. The DHCP presents

[14] USFWS, *Addendum to the HCP/ITP Handbook* (June 2000).
[15] DHCP, pp. 9–10.

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absolutely no evidence or reasoning that maximizing output from this particular project will maximize the benefits of wind energy or lead to any reduction in energy production that causes climate change. That link depends on a multitude of economic and political factors at both a national and state scale that are highly uncertain.

Second, this draft objective has the same infirmity discussed above – "maximizing operational output of the project" is not a "biological" objective but rather a "management" objective.

Third, the DHCP presents no evidence that maximizing operational output meets the stated goal of minimizing take of Indiana bats to the "maximum extent practicable" and promoting the health and viability of Indiana bat populations.

3
CALCULATION OF TAKE AND ITS EFFECTS

DHCP/ESA

0030-6

COMMENT 3.1. THE DRAFT ESTIMATE OF BASELINE TAKE OF INDIANA BATS IGNORES THE FORMAL UNCERTAINTY ANALYSIS OF THE RISK MODEL.

Generally, incidental take is expressed as the number of individuals reasonably likely to be taken.[16] The DHCP's estimate of baseline anticipated take does not accurately reflect the results of the Bat Collision Risk Model ("Risk Model").[17] The real strength of the Risk Model, as discussed in Appendix A of the DHCP, is that it formally incorporates and considers uncertainty. As the authors indicate, the behaviors and risks that were sought to be captured in the Risk Model are highly uncertain. To reflect this high level of uncertainty, the modelers used a relatively simple model with ranges or distributions of parameter values. In describing the model approach, the authors state, "A probabilistic approach was used in this collision risk model that relied on either a range of values, or on a formal distribution for each model input,

[16] USFWS & NMFS, *Endangered Species Consultation Handbook* (Mar. 1998), p. 4-50.
[17] DHCP, App. A. The estimate also oversimplifies the studies on the effects of modifying cut-in speed cited in the DHCP.

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rather than a deterministic approach based on single-point estimates."[18] The authors further describe in the discussion their approach to incorporating uncertainty in the model:

> The range of estimated mortality of Indiana bats reflects uncertainty around each of the model inputs: population size; flight height; the effect of temperature and wind speed on nightly activity; movements within the turbine array; and factors that lead to survival or mortality (e.g., avoidance or attraction). This uncertainty is evident in the disparity of values at the upper and lower edges of estimated mortality distributions (i.e., the 30th and 70th percentiles). A probabilistic approach was chosen for this model, using distributions for each model input derived from empirical data, derived data, or professional opinion to account for this uncertainty. This was preferred over using single-point estimates for each of the input parameters, which would have resulted in less variability, but also less confidence, in the model results.[19]

As the authors recognize, this formal incorporation of uncertainty is the real strength of the model given the high level of uncertainty regarding the model inputs:

> The probabilistic approach used in this collision risk model represented a unique way of adapting the existing Bolker et al. (2006) model to fit the needs of a species whose behavior did not match that of migratory or nesting bird species. For each individual simulation (out of 100,000), the calculation of collision risk combined the average number turbine encounters for all possible flight directions and all possible flight heights (weighted by probability), along with a randomly-selected survival probability between 0 and 1 that varied among survival scenarios. By using distributions whose shapes were derived from available data on bats, Myotis species, or Indiana bats specifically, *a reasonable range of uncertainty was encapsulated during each simulation, which likely captured the expected amount of mortality that would result from the proposed Project*.[20]

Thus, as stated by the authors in the last sentence above, the model results likely "capture" the expected amount of bat fatalities due to the Project, similar to how a confidence interval is said to capture the actual parameter value.

Importantly, the modelers do not know which of the three survival scenarios modeled are more or less likely than the others. Each survival scenario represents a distribution of probabilities that a bat survives an imminent collision with a turbine rotor.[21] The authors state that "the actual chance of survival if an Indiana bat flies into the rotor swept zone of a turbine is

[18] DHCP, App. A, p. 2.
[19] DHCP, App. A, p. 44.
[20] DHCP, App. A., p. 45 (emphasis added).
[21] DHCP, App. A., pp. 32–33.

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unknown. . . . Three potential survival scenarios were created to both reflect uncertainty and to test the sensitivity of the model outcome . . . . It is important to reemphasize that factors leading to an Indiana bat surviving an encounter with a turbine (e.g., avoidance) are very poorly understood . . . . By incorporating a distribution of survival probabilities over 3 different scenarios, it is expected that this method provides a reasonable and conservative estimation of the survival probability."[22]

Although the modelers have more information on flight heights and may be able to reasonably surmise that the low flight height scenario is more likely than the high flight height scenario, there is still a large amount of uncertainty regarding flight height, particularly of migrating Indiana bats.[23]

Accordingly, the model results are expressed not as a deterministic estimate of bat fatality but rather as distributions of results, primarily for different scenarios of flight height and survival in different seasons. From these distributions, model results are summarized in terms of the median (i.e., 50th percentile), the 30th percentile, and the 70th percentile.[24] The Risk Model results show that the median annual number of fatalities ranges from 3.46 to 36.82, depending on survival scenario and flight height scenario. The range of model results between the 30th and 70th percentiles, however, to a large extent "captures" the expected amount of bat fatalities due to the Project. This output of the Risk Model is presented in the DHCP as the best available science.

Yet, despite the high level of uncertainty in collision risk and fatalities for Indiana bats, despite the authors' belief that the Risk Model provides a reasonable and conservative estimation of the survival probability based on its incorporation of a distribution of probabilities over different scenarios, despite the formal treatment of uncertainty in the Risk Model inputs and results, and despite the fact that this formal incorporation of uncertainty is the main strength of the Risk Model, the DHCP collapses all of the information about uncertainty contained in the results – information that was deemed essential to the modeling exercise – into a single average number (16.3 bats per year), which is then used to calculate expected annual take of Indiana bats by the Project.[25] This average is then reduced by another average calculated over the ranges of benefits of increasing cut-in speed found in three studies, to get a take estimate of 5.2 bats per

[22] DHCP, App. A., pp. 32–33.
[23] DHCP, App. A., pp. 27–32.
[24] DHCP, App. A., pp. 41–43.
[25] *See* DHCP, pp. 121–125.

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year. This averaged result, or a number near to this result, could have been arrived at by selecting a deterministic model with deterministic input that represents the average of the input scenarios and values. The modelers chose to use a probabilistic model to incorporate the large amount of uncertainty and generate a range of results, and the authors of the DHCP then chose to ignore the important information in those results.

It has been well recognized for many years that models that incorporate uncertainty provide more and better information in cases where uncertainty is pronounced, and many have called for the use of such models. The more difficult task is using the model output effectively to make decisions. When the inputs to a model are highly uncertain, as in this case, the best practice is to recognize and use the uncertainty in the resulting outputs.

Why does ignoring the uncertainty in the results of the Risk Model matter for estimating baseline take of Indiana bats by the Project? First, the HCP's avoidance and minimization measures must be commensurate with the level of impacts indicated by the best available science. If the estimated impact does not reflect the best available science then the degree of avoidance and minimization initially required of the permittee may be insufficient to satisfy the permit issuance criteria in the ESA regulations. Second, if the estimated impact does not reflect the best available science then the estimated impacts of the Project on the viability of local maternity colonies and the Midwest RU population may be unrealistic.[26] An accurate picture of the Project's impacts on population viability is essential for an accurate determination of whether the taking will appreciably reduce the likelihood of the survival and recovery of the species in the wild.

Although the averaged estimated annual take of 5.2 bats per year may be a reasonable trigger point for adaptive management (the 30th percentile estimated take may be better for that purpose), the average of the Risk Model's 70th percentile results for annual fatalities of 38 bats per year[27] is a conservative but reasonable value to use for determining jeopardy and setting minimization and mitigation measures.[28] Use of the 70th percentile results is a simple way to use at least some of the information produced by this probabilistic model and capture a range of most likely outcomes.

[26] *See* DHCP, pp. 130–145.
[27] *See* DHCP, Sections 4.2–4.4 in App. A.
[28] The Risk Model's 70th percentile result for annual fatalities for the high flight scenario is 60 bats per year.

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COMMENT 3.2. THE DHCP'S EVALUATION OF THE IMPLICATIONS UNDER THE ESA OF A RAPIDLY DECLINING POPULATION INFECTED WITH WHITE-NOSE SYNDROME IS UNSUPPORTED.

A. Background

To issue an ITP, USFWS must find that a project's applicant will, to the maximum extent practicable, minimize and mitigate the impacts of the taking.[29] This is also part of the goal stated in Section 1.2 of the DHCP. An applicant for an ITP must first minimize take to the maximum extent practicable before it mitigates the remaining take to the maximum extent practicable.[30]

"Jeopardize the continued existence of" means to engage in an action that "reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species."[31] Typically, a jeopardy opinion is rendered "when the total of the species' status, environmental baseline, effects of the proposed action, and cumulative effects lead to the conclusion that the proposed action is likely to jeopardize the continued existence of the entire species, subspecies, or vertebrate population as listed."[32]

USFWS's 2011 Wind Energy Projects Guidance discusses the analytical framework for jeopardy analysis, reproduced in part below:

> The definition [of jeopardy] directs us to evaluate whether a reduction in the likelihood of survival and recovery is expected. Reduction embodies the concept of a change, more specifically, a decrease. Likelihood implies a chance or probability of some event. Thus, we are directed to assess whether a decrease in the probability of survival and recovery is expected. Further, it is not just whether any decrease will occur; we must evaluate whether the magnitude of the anticipated decrease is "appreciable." Appreciable means noticeable, perceivable, or measureable. In pulling these three concepts together, our jeopardy analyses is then determining whether the anticipated reductions in the species' reproduction, numbers, or distribution (RND) would reasonably be expected to noticeably, perceivably, or measurably decrease the species' probability of survival and recovery.

[29] 16 U.S.C. § 1539(a)(2)(B); 50 C.F.R. §17.22 (b); USFWS & NMFS, *Habitat Conservation Planning and Incidental Take Permit Processing Handbook* (Dec. 4, 1996), pp. 3-15; 7-3 to 7-4.
[30] USFWS, *Indiana Bat Section 7 and Section 10 Guidance for Wind Energy Projects, Revised* (Oct. 26, 2011), p. 47 ("68. Is it allowable for an applicant to mitigate in lieu of minimization measures, or must the applicant first minimize if possible? Response: An applicant must first minimize to the maximum extent practicable.").
[31] 50 C.F.R. § 402.02.
[32] USFWS & NMFS, *Endangered Species Consultation Handbook* (Mar. 1998), pp. 4-37 to 4-38.

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Analytical Framework for Jeopardy Analyses

* * *

The end product of a section 7 effects analysis is a description of the type and magnitude of response bats will exhibit upon exposure to an action and any associated environmental stressors. Among others, biological responses include startle, alarm, flee, avoid, abandon/ displacement, reduced feeding success, reduced growth, reduced reproductive success, reproductive failure, and mortality. Once the anticipated response is determined, we are poised to assess the consequences such responses pose for the species, i.e., complete a jeopardy analysis. The framework below describes a sequential process for conducting jeopardy analyses.

First, we evaluate how the individual responses will affect the fitness of those individuals (Step 1 in the schematic below). The fitness of an individual is measured by its annual and lifetime reproductive success and its survival likelihood. For example, if we determined that Indiana bats are likely to abandon a foraging area upon exposure to the proposed action, we must determine how such a response affects the lifetime reproductive success and survival likelihood of the individuals exposed. If no reductions in individual fitness are anticipated, then the analysis is complete and the action agency has insured that its action is not likely to jeopardize the continued existence of the Indiana bat.

If reductions in fitness are anticipated, in the next step (Step 2) we evaluate how changes in the fitness of the individuals affect the fitness of the population to which those individuals belong. The fitness of a population (i.e., its reproductive success and survival probability) is a compilation of the fitness of each of the individuals and the number of individuals comprising the population1. For the Indiana bat, a “population” is typically a maternity colony, a congregation of swarming bats, or a congregation of bats in a hibernaculum, and hence, we are evaluating how the fitness of the maternity/swarming/winter colony will be affected by the collective reduction in survivorship and reproduction of the individuals exposed to the proposed action. Specifically, we are analyzing how the reductions in individual fitness affect the population’s abundance, reproduction, growth rates, or variance in these measures to make inferences about the population‘s future reproductive success (if applicable) and its viability. If no reductions in the maternity/swarming/winter colony fitness are anticipated, we conclude that the agency has insured that their action is not likely to jeopardize the continued existence of the Indiana bat and our analysis is completed. If, however, we cannot show that reductions in the population’s fitness are unlikely to occur, we evaluate the impact of such reductions in population fitness will reduce the likelihood of both survival and recovery of Indiana bat rangewide by impacting its RND. As the recovery plan designates recovery units (RUs), this next step (Step 3) looks at how the reductions in population fitness affects RND of Indiana bats within the affected RU and how these effects on RND affect the likelihood of both survival and recovery of Indiana bats in the RU.

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> To understand the consequences of population-level reductions in fitness, we need to identify the RND needs of Indiana bat at the RU level, i.e., what is needed in terms of RND to ensure the species is no longer in danger of extinction or to become endangered within the foreseeable future in the RU (henceforth, referred to as conservation needs). . . . Our analysis in this step evaluates how the population-level effects influence the likelihood of progressing towards or maintaining the conservation needs.2 If the population-level risks do not noticeably, detectably, or perceivably reduce the likelihood of progressing towards or maintaining one or more of the conservation needs, then the action is not likely to appreciably reduce the likelihood of both survival and recovery of Indiana bat within the affected RU(s), and our analysis is completed. If population-level risks appreciably reduce the likelihood of progressing towards or maintaining these conservation needs in the RU, then the likelihood of both survival and recovery of Indiana bats in the RU will likely be appreciably reduced, and we need to complete a fourth and final analysis.
>
> In Step 4, we evaluate whether such reductions in RND within the RU will reduce appreciably the likelihood of both survival and recovery of Indiana bat rangewide. As explained in the recovery plan, the RUs are designed to preserve sufficient representation, redundancy, and resiliency to ensure the long-term persistence of Indiana bat. It then follows that an appreciable reduction in the likelihood of both survival and recovery of Indiana bats in any one RU will reduce the representation, redundancy, and resiliency of the species rangewide and will therefore inherently cause an appreciable reduction in the likelihood of survival and recovery of the Indiana bat rangewide.[33]

B. The DHCP's Conclusion That the Project Cannot Jeopardize the Indiana Bat No Matter How Dire the Circumstances and the DHCP's Response to White-Nose Syndrome Are Inconsistent with the ESA.

The DHCP discounts the possibility that the Project could jeopardize the Indiana bat – that is, reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild – even in dire circumstances of a rapid decline toward extinction caused by an outbreak of White-Nose Syndrome ("WNS").[34] The results of the Leslie Matrix model show that the combined impacts to the Midwest RU population of the Project and WNS together drive the population to near extinction within 25 years.[35] According to the DHCP's logic, the incremental effect of the Project on the species' decline would be relatively small compared to the large

[33] USFWS, *Indiana Bat Section 7 and Section 10 Guidance for Wind Energy Projects, Revised* (Oct. 26, 2011), pp. 50-51.
[34] DHCP, pp. 141-142.
[35] DHCP, p. 141, Figure 5-4.

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effect of WNS, so the Project cannot jeopardize the population: "Based on these modeling results, Indiana bat populations at both the maternity colony and Midwest RU levels will not be reduced to low or non-viable levels appreciably sooner with impacts from Project-related take than without it . . . ."[36] The DHCP then commits to reducing requested take by 50% if the Indiana bat population is reduced to 50% of pre-WNS levels.[37]

There are two problems with the DHCP's analysis. First, according to the DHCP's logic, USFWS would and should authorize take of an endangered species by a project no matter what the status of the species – no matter how dire its circumstances – so long as the project's take is small relative to other causes of decline. This logic is inconsistent with ESA regulations and guidance on jeopardy. This logic is also inconsistent with statements in other parts of the DEIS and DHCP, which correctly point out that the significance of take increases as the status of the species becomes increasingly dire. The DHCP states, "[A]s the population declines, each individual *becomes more valuable to the population as a whole*."[38] Similarly, the DEIS states, "Although population numbers in this RU are still seemingly high, given the extremely rapid rate at which WNS has spread over just 3 years, and the high mortality rates observed in the Northeast RU, population reductions of all cave bat species as a result of WNS in the Midwest RU are expected to increase . . . *which makes additional mortality from other sources (i.e. wind power) even more significant*."[39] The DEIS also states, "If the Midwest RU Indiana bat population or other cave bat populations were substantially reduced as a result of WNS or other causes, the projected level of mortality resulting from wind turbines *could have greater implications for the viability of the population and the cumulative effects of this Project and past, present, and reasonably foreseeable actions considered in this analysis could result in significant effects to the Indiana bat or other cave bat population size or distribution*."[40] When a species is spiraling toward extinction, the loss of even a single individual may be highly

[36] DHCP, p. 142.
[37] DHCP, p. 142.
[38] DHCP, p. 141 (emphasis added).
[39] DEIS, p. 5-188 (emphasis added).
[40] DEIS, p. 5-189 (emphasis added).

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significant.[41] Moreover, the application of the word "appreciably" in the regulatory definition of jeopardy depends on the status of the species or population.[42]

The DHCP, however, ignores the possibility that this Project's take could "reduce appreciably" the likelihood of both the survival and recovery of the Indiana bat if the population was headed for extinction within a matter of two or three decades. The DHCP's apparent conclusion is that because the Midwest RU population would be rapidly heading for extinction without the Project, then USFWS may as well authorize take from the declining population. Of course, most every other project in the Midwest RU could and would make the same claim. It would be more reasonable to conclude that under such dire circumstances USFWS would find that the level of take proposed in the DHCP, and the resulting downward trajectory of the Midwest RU,[43] would indeed "appreciably" reduce the likelihood of both the survival and recovery of the Indiana bat. At a minimum, the DHCP should take a hard look at this issue and make a reasoned assessment rather than blithely assume that the status of the Midwest RU would have no effect on the jeopardy analysis for the Project.

Second, the DHCP's plan is to reduce the requested take of Indiana bats by the same percentage of the population decline due to WNS – i.e., a 50% decline in the Midwest RU would trigger a 50% reduction in requested take. This is an overly-simplistic response, which is not consistent with the justification for the response stated in the DHCP – i.e., that 50% fewer Indiana bats will be exposed to risk because of the assumed linear relationship between overall population decline and the number of bats exposed to wind turbines in this particular action area; that the adaptive management plan will kick in if that assumption is determined to be wrong; and that "each individual becomes more valuable to the population as a whole."[44] In the absence of the last factor, the 50% reduction in requested take might be a reasonable response to a 50% drop in the Midwest RU population, if the simplistic assumption used – that reductions in bats at the hibernacula have a uniform effect on all maternity colonies and all summer use areas – holds up to evidence. But the DEIS and DHCP repeatedly and correctly point out that the significance of

[41] For example, the loss of even one Whooping Crane is significant given their low numbers. *See* USFWS, *Whooping Cranes and Wind Development – An Issue Paper* (Apr. 2009), *available at* ftp://wiley.kars.ku.edu/windresource/Whooping_Crane_and_Wind_Development_FWS_%20April%202009.pdf.
[42] *See* USFWS, *Indiana Bat Section 7 and Section 10 Guidance for Wind Energy Projects, Revised* (Oct. 26, 2011), pp. 50–51.
[43] DHCP, p. 138, Figure 5-2. The DHCP presents Leslie Matrix modeling results that show that the proposed baseline take of Indiana bats causes the population to decline.
[44] DHCP, p. 141.

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take increases as the status of the species becomes increasingly dire.[45] Thus, a 50% reduction in the Midwest RU population should trigger not only a reduced request of the take limit (due to fewer bats encountering turbines) but also additional minimization and mitigation measures to account for the increased significance of the remaining population and of take from that population. This consideration should be, but has not been, considered or discussed in the DHCP. This issue is discussed in Section 7 below in the context of adaptive management.

4
ALTERNATIVES

DEIS/NEPA

0030-8

COMMENT 4.1. THE ALTERNATIVES STUDIED IN THE DEIS DO NOT CONSTITUTE A REASONABLE RANGE OF ALTERNATIVES.

A. Background

The EIS must "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated."[46] Consideration of alternatives is "the heart of the environmental impact statement."[47] The stated goal of a project dictates the range of "reasonable" alternatives and an agency cannot define its objectives in unreasonably narrow terms. Project alternatives derive from an EIS's Purpose and Need section. Thus, courts begin their evaluation of the alternatives by determining whether or not the Purpose and Need Statement is reasonable and then evaluate whether the range of alternatives based on the purposes and needs is reasonable.[48]

Courts review an EIS's range of alternatives under the "rule of reason." Under the rule of reason, the EIS need not consider an infinite range of alternatives, nor is the agency required to undertake a separate analysis of alternatives which are not significantly distinguishable from alternatives actually considered or that have substantially similar consequences, nor must the agency analyze remote and speculative alternatives. But the EIS must consider reasonable or

[45] DEIS, p. 5-188 & 5-189; DHCP, p. 141.
[46] 40 C.F.R. § 1502.14(a).
[47] 40 C.F.R. § 1502.14.
[48] Westlands Water Dist. v. U.S. Dept. of Interior, 376 F.3d 853, 865 (9th Cir. 2004); Simmons v. U.S. Army Corps of Engineers, 120 F.3d 664, 666, 670 (7th Cir. 1997).

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feasible, and non-duplicative alternatives. The existence of a viable but unexamined alternative renders an environmental impact statement inadequate.[49] The agency has a duty to study all alternatives that appear reasonable and appropriate for study, as well as significant alternatives suggested by other agencies or the public during the comment period.[50] The touchstone for the inquiry into the range of alternatives is whether an EIS's selection and discussion of alternatives fosters informed decision-making and informed public participation.[51]

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B. The DEIS Does Not Consider a Reasonable Range of Alternatives.

USFWS determined that an EIS is necessary to evaluate the Applicant's Project for two reasons. First, the Project's effects are uncertain and require more thorough analysis, including the impact to federally listed species. Second, the Project will receive one of the first ITPs for Indiana bats associated with a wind facility.[52] The implications, therefore, of granting the ITP and approving the Applicant's HCP are significant for future wind project development. This HCP could potentially set the standard for avoidance, mitigation, and monitoring techniques as well as provide an opportunity to improve research and data collection on bat, bird, and wind turbine interactions.

Under NEPA, an agency's statement of "purpose and needs"[53] is important both for context and "to provide the framework in which 'reasonable alternatives' to the proposed action will be identified."[54] USFWS's guidelines define purpose as "a goal or end to be obtained" and needs as "a lack of something required, desirable, or useful."[55] The definition of needs further elaborates that "[n]eeds help define and design alternatives."[56] With respect to the proposed Project, the DEIS states the purposes of the action as follows:

> The purposes for the proposed action and preparing this DEIS are to:
>
> - Respond to Buckeye Wind's application for an ITP for the federally endangered Indiana bat related to Project activities that have the potential to result in take, pursuant to the provisions of section 10(a)(1)(B) of the

[49] *Westlands Water Dist.*, 376 F.3d at 868; Dubois v. U.S. Dept. of Agriculture, 102 F.3d 1273, 1287 (1st Cir. 1996).
[50] *Dubois*, 102 F.3d at 1287.
[51] *Westlands Water Dist.*, 376 F.3d at 868.
[52] DEIS, p. 1-9.
[53] 40 C.F.R. § 1502.13.
[54] CEQ, *Exchange of Letters with Secretary of Transportation: Purpose and Need*, May 2003, Part 2, *available at* http://ceq.hss.doe.gov/nepa/regs/CEQPurpose2.pdf.
[55] USFWS, *Draft Fish and Wildlife Service Manual*, 550 FW 2.4(A)(1), *available at* http://www.fws.gov/r9esnepa/550FW/550-final.fwm.pdf.
[56] *Id*. at 550 FW 2.4(A)(2).

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ESA, as amended, and its implementing regulations (50 C.F.R. part 17.22(b)(1)) and policies.

- Protect, conserve and enhance the Indiana bat and its habitat for the continuing benefit of the people of the United States (U.S.).
- Provide a means and take steps to conserve the ecosystems depended on by the Indiana bat.
- Ensure the long-term survival of the Indiana bat through protection and management of the species and their habitat;
- Ensure compliance with the ESA, NEPA, and other applicable Federal laws and regulations.[57]

The DEIS's statement of need provides in relevant part as follows:

> Commercial wind facilities have been shown to cause high numbers of bat fatalities in many locations. There is a need to ensure that take of Indiana bats is *avoided and minimized to the maximum extent practicable* and to ensure that *the impact of any remaining take is fully mitigated*. There is also a need to protect the habitat of Indiana bats including their maternity trees, swarming areas near hibernacula, and nearby foraging and roosting habitat.[58]

The goals of the DEIS are thus two-fold: to minimize take of Indiana bats to the maximum extent practicable and to protect the habitat of Indiana bats. Given that the "stated goal of a project necessarily dictates the range of 'reasonable' alternatives,"[59] the DEIS's broad statement of purpose and need allows for the consideration of a wide range of alternative project designs, siting, and operations, mitigation schemes, and adaptive management programs.

That said, there are three fatal problems with the range of alternatives considered by USFWS in the DEIS. First, USFWS chose to focus on a set of alternatives rooted in operational adjustments only. Second, reasonable alternative siting schemes for the wind turbines, such as omitting turbines from Category 1 habitat, were not analyzed. Third, as will be discussed in greater detail in Section 5 in the context of the DHCP, even the set of operational alternatives that is considered is not a reasonable range of alternatives; the considered set omits reasonable and feasible alternatives that the best available science shows can better meet the DEIS's purposes and needs.

These flaws in the alternatives analysis are especially egregious given that this EIS is in the context of ITP approval. CEQ guidelines state that for an EIS prepared in connection with an

[57] DEIS, p. 1-5.
[58] DEIS, p. 1-6 (emphasis added).
[59] City of Carmel-by-the-Sea v. U.S. Dept. of Transp., 123 F.3d 1142, 1155 (9th Cir. 1997).

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application for a federal permit or approval, "the emphasis is on what is 'reasonable' rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative."[60]

USFWS's guidance on NEPA states that "the EIS . . . shall include an alternative comprising the proposed action, a no action alternative, and reasonable alternatives that satisfy the purpose and need(s), to the extent practicable."[61] The alternatives chosen for detailed study must therefore represent a range of options that satisfy, to varying degrees, the purpose and need of USFWS: protection of the Indiana bat and the Indiana bat's habitat. Although the number of options the agency must consider is "bounded by some notion of feasibility,"[62] it "may not limit itself to only one end of the spectrum of possibilities."[63] Courts have held that "the evaluation of alternatives is to be an evaluation of alternative means to accomplish the general goal of an action."[64] In the context of species protection, a number of possibilities exist, including administrative or regulatory means, project siting changes, operational adjustments, and mitigation and adaptive management schemes. Each category may then be further expanded upon, and every option identified will have its own advantages and disadvantages. It is the purpose of the EIS to highlight the environmental advantages and risks of a given project and evaluate them objectively to best determine which meets the needs of the agency, as written in its purpose and need statement.[65]

[60] CEQ, *Forty Most Asked Questions Guidelines Concerning CEQ's NEPA Regulations*, Question 2a (Mar. 23, 1981), *available at* http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm.
[61] USFWS, *Draft Fish and Wildlife Service Manual*, 550 FW 2.4(A)(4).
[62] Vermont Yankee Nuclear Power Corp. v. NRDC, 435 U.S. 519, 551 (1978).
[63] Oceana, Inc. v. Evans, 384 F. Supp. 2d 203, 240 (D.D.C. 2005); *see also* Sierra Club v. Watkins, 808 F. Supp. 852, 872 (D.D.C. 1991); 46 Fed. Reg. 18026 (1981) (Forty Most Asked Questions Concerning CEQ's National Environmental Policy Act Regulations).
[64] Simmons v. U.S. Army Corps of Engineers, 120 F.3d 664, 669 (7th Cir. 1997) (quoting Van Abbema v. Fornell, 807 F.3d 633, 638 (7th Cir. 1986)).
[65] *See* Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 351 (1989) ("One important ingredient of an EIS is the discussion of steps that can be taken to mitigate adverse environmental consequences."); Dubois v. United States Dept. of Agriculture, 102 F.3d 1273, 1286 (1st Cir. 1996) ("The consideration of alternatives is 'the heart of the environmental impact statement.'") (citation omitted).

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C. The DEIS's Rejection of Reasonable Alternatives from Detailed Study Is Unjustified.

Rather than compare and contrast alternate means of accomplishing the agency's objectives of protecting the Indiana bat through avoidance, minimization, and mitigation, USFWS narrows its analysis to one type of potential measure – operational adjustments. This does not represent a selection of reasonable and feasible alternatives from which the agency can thoroughly examine the environmental risks of the Project.

USFWS identified several categories within which alternatives could be created but chose to pursue operational adjustments only. Although the DEIS briefly discusses the elimination of the other categories of potential alternatives from detailed study, it does not offer explanations why those would not meet the *agency's* goals, rather than the Applicant's goals. An "agency cannot restrict its analysis to those 'alternative means by which a particular applicant can reach his goals.'"[66] CEQ guidelines state that for an EIS prepared in connection with an application for a federal permit or approval, "the emphasis is on what is 'reasonable' rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative."[67] Furthermore, "[n]either NEPA nor the CEQ regulations make a distinction between actions initiated by a Federal agency and by applicants," and "[r]easonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense rather than simply desirable from the standpoint of the applicant."[68] The elimination of the three other alternatives narrows the set of alternatives unreasonably and does not leave a reasonable range of alternatives. "A viable but unexamined alternative renders an EIS inadequate."[69]

USFWS rejected the following alternatives from detailed study: a shorter ITP term, an alternate location in Ohio, and reduced number of turbines.[70] Each of these rejections is now discussed in turn.

[66] *Simmons*, 120 F.3d at 669 (quoting *Van Abbema*, 807 F.3d at 638).
[67] CEQ, *Forty Most Asked Questions Guidelines Concerning CEQ's NEPA Regulations*, Question 2a (Mar. 23, 1981), *available at* http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm.
[68] *Id.*; USFWS, *National Environmental Policy Act Reference Handbook*, CEQ Guidance Regarding NEPA Regulations, Memorandum to Heads of Federal Agencies (1983), *available at* http://wsfrprograms.fws.gov/subpages/toolkitfiles/fwsnepa.pdf.
[69] Muckleshoot Indian Tribe v. U.S. Forest Service, 177 F.3d 800, 814 (9th Cir. 1999) (quoting Citizens for a Better Henderson v. Hodel, 768 F.2d 1051, 1057 (9th Cir. 1985)).
[70] DEIS, p. 2-5.

1. Shorter ITP Term

0030-11

The DEIS explains the rejection of a shorter ITP term in part as follows: "[T]he Applicant determined that Project funding would be severely hampered by an ITP term that is shorter than the operational life of the Project."[71] This statement says nothing of the USFWS's opinion on feasibility or practicality, and only repeats the Applicant's opinion. Rather than accept the Applicant's assertion that investment would be "severely hampered," USFWS should test that presumption.[72]

We challenge the claim that investment in wind power facilities would be severely hampered if permit terms were not multi-decade. The most critical factors in renewable energy investment are federal subsidies such as the Production Tax Credit and the Investment Tax Credit. As (Buckeye's parent) EverPower's CEO said in 2011, "Without a tax credit, you will not see new construction of wind farms." Testimony given before Congress in 2009, by Timothy J. Richards, General Electric's Managing Director of International Energy Policy, was to the same effect. While Richards certainly identified "time horizons in decades" as a factor that distinguished renewable energy projects, the changes he asked Congress to make included tax credits and other subsidies of increased length and predictability, favorable trade policy, and the adoption of binding renewable energy standards. He made no mention of increasing the term of environmental permits.

This is not to say that energy developers would not like to be free of environmental permitting issues. Every risk they can eliminate or mitigate is an advantage to them. Buckeye Wind would certainly be very happy not to be accountable if it turns out that it miscalculated the risk of building a wind farm in Indiana bat habitat – a very real possibility in the dynamic context of climate change and White-Nose Syndrome. But the duration of an Indiana bat incidental take permit is simply not anywhere near the top of a full list of risks that Buckeye Wind faces. And it would be unwise and inconsistent with the purpose of the ESA to provide long-term relief from accountability in present circumstances.

With respect to the assumption that the timeframe of renewable energy projects requires permits of 20 years or more because potential investors require certainty for that period of time,

[71] DEIS, p. 2-5.

[72] *See* Simmons v. U.S. Army Corps of Engineers, 120 F.3d 664, 669 (7th Cir. 1997) ("[A]lternatives might fail abjectly on economic grounds. But the Corps, and more important, the public cannot know what the facts are until the Corps has tested its presumption.").

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we have already commented that incidental take permits are nowhere near the top of any investor's list of risk factors. Further, it is a mistake to conclude that because the project has a planned life of decades, most potential investors in the project have a similar time horizon. Terra Firma Capital Partners Limited, which is the parent of Buckeye Wind's parent company, states in its public materials that the average duration of its investments is *five* years.

Even assuming that Buckeye Wind has, needs, or will seek additional bank financing, the availability and cost of that financing is relevant. Interest rates will vary depending on perceived risk, but the duration of an ITP, if an ITP is properly available, is highly unlikely to have a significant effect on the overall risk profile of the project.

Once the project is operational, the owners of Buckeye Wind may begin to look for a new owner that will operate it over the long term. Again, of the many variables and risks that will affect the market for such sales, the duration of an ITP (again, assuming an ITP is properly granted in the first place) is highly unlikely to be anything other than a very minor one. In a carefully and responsibly planned project that actually ought to move forward because it has been developed and located to minimize harm to the bat, the risk posed by the permitting process and the duration of the permit to investments in the project will be an insignificant one.

Eliminating that risk – a small one in the universe of risks Buckeye Wind faces – by issuing a long-term permit with no surprises assurances may on the other hand entail significant risk to the survival and recovery of the Indiana bat.

Buckeye Wind simply does not need an ITP of a duration that matches the term of the project, a duration that is unjustified given the uncertainties facing the Indiana bat. Permits of shorter duration are not only more consistent with the ESA's commitment to conserve Indiana bats, they are also entirely consistent with the goal of promoting responsible renewable energy development.

USFWS's dismissal of an ITP term alternative also begs the question why other ITP renewal strategies were not explored. If, for example, a streamlined 5-year ITP renewal process were proposed that achieved investor confidence but still provided USFWS with a mechanism by which it could incorporate new mitigation measures, this would certainly be a reasonable alternative to a 30-year ITP. A streamlined renewal process for 5-year ITPs would allow for the incorporation of newly-gathered Indiana bat population data and the implementation of better-studied operational measures.

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Moreover, if the feasibility of an alternative is central to its rejection, USFWS should have likewise rejected Alternative A, the Maximally Restrictive Operations Alternative, given that the Applicant asserts it would not be commercially viable. USFWS is thus acting inconsistently in its choice of alternatives. On the one hand, it uses economic infeasibility to eliminate an alternative, but on the other hand, it ignores economic infeasibility in selecting another alternative for detailed study.

2. Alternate Location in Ohio

0030-12

USFWS's justification for eliminating an alternative location in Ohio from further study rests on two assertions. First is the assertion that the "[p]roposed location provides adequate wind resource and technical feasibility" and "moving the project may still put Indiana bats at risk in Ohio."[73] Notwithstanding the possibility that the risk of harm "could be greater or lower"[74] than the Project's current proposed location, USFWS concludes that since Indiana bats may be present throughout Ohio, moving the project to a different area in the state "would not necessarily reduce the likelihood that Indiana bats would be affected."[75] This is faulty reasoning and does not demonstrate that the agency is taking a hard look at identifying a range of reasonable alternatives to the Proposed Action. The purpose of an EIS is to assess risk; therefore, to abandon a reasonable alternative because the risk is unknown is inconsistent with the purpose of preparing the EIS in the first place.[76] If, as USFWS itself notes in the DEIS, the risk to the Indiana bat could be lower at an alternate location, then that alternative falls squarely within the framework of the DEIS's statement of purpose and need – that is, "to ensure that take of Indiana bats is avoided and minimized to the *maximum extent practicable*."

The second assertion for eliminating the alternate location option is that "the Applicant asserts that it is not practical or financially feasible to fully develop a commercially viable alternate location."[77] This rationale is at odds with CEQ's guidance on what constitutes reasonable alternatives. Again, CEQ guidelines provide that "the emphasis is on what is 'reasonable' rather than on whether the proponent or applicant likes or is itself capable of

[73] DEIS, Table 2.2-1.
[74] DEIS, p. 2-5.
[75] DEIS, p. 2-5.
[76] NRDC v. Callaway, 524 F.2d 79, 92 (2d Cir. 1975) ("It is absolutely essential to the NEPA process that the decisionmaker be provided with a detailed and careful analysis of the relative environmental merits and demerits of the proposed action and possible alternatives, a requirement that we have characterized as 'the linchpin of the entire impact statement.'") (citation omitted).
[77] DEIS, p. 2-5; *see also* Table 2.2-1, fn. 2.

carrying out a particular alternative."[78] That the Applicant does not want to "double the effort and financial expenditure required to develop a single Project"[79] is not sufficient justification for failing to study an alternative that could present less risk to the Indiana bat and to its habitat while still promoting renewable energy and helping achieve Ohio's wind development goals. If wind resource potential and power infrastructure in eastern Ohio is even somewhat comparable to wind resource potential in western Ohio, and risk to the bat may be lower in eastern Ohio, then this alternative should certainly be further studied and explored as part of the NEPA process. The DEIS should take a broad look at the State and evaluate whether concentrating wind facilities in other parts of Ohio could substantially reduce the take of Indiana bats. The DEIS should explain the reasons for which western Ohio was chosen and describe whether wind resource potential, power infrastructure, and Indiana bat habitat in all Ohio regions are comparable. If the agency's goals are to protect Indiana bat habitat and avoid the take of Indiana bats, siting is critical to the accomplishment of those goals. An alternate location is therefore well within the range of reasonable alternatives that USFWS should explore in the EIS.

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In fact, evidence presented in the DEIS suggests that the Project's current location in Ohio is in conflict with USFWS guidelines. The DEIS states that the Applicant followed the *Service Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines*[80] and suggests how the Applicant incorporated the recommendations. The first bullet point provides as follows:

> *Avoid placing turbines near known bat hibernation, breeding, and maternity/nursery colonies, in migration corridors, or in flight paths between colonies and feeding areas.* The Applicant commissioned several bat studies (i.e., mist netting, acoustic detection, radar, and swarming studies) to determine the location of any bat hibernacula, maternity colonies, migration corridors, and flight paths in the Action Area . . . A Habitat Suitability Model and collision risk model (Appendices B and A of the HCP, respectively) for the Indiana bat was developed based on the Indiana bat survey results for the Action Area, other Indiana bat studies conducted in the Action Area vicinity, and the habitat in the Action Area in order to determine areas where impacts to this species would mostly likely occur.[81]

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[78] CEQ, *Forty Most Asked Questions Concerning CEQ's NEPA Regulations*, Question 2a (Mar. 23, 1981), *available at* http://ceq.hss.doe.gov/nepa/regs/40/40p3.htm.
[79] DEIS, p. 2-5.
[80] DEIS, p. 5-44.
[81] DEIS, pp. 5-44 to 5-45 (italics in original).

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In a preceding section of the DEIS, USFWS presents a map of Indiana bat summer records (Figure 4.5-2) and a map of Indiana bat migration records (Figure 4.5-3).[82] Both maps, but particularly the migration records map, defies the above-quoted language. Figure 4.5-3 shows Indiana Bat Migration Records from 1971 to 2010 and identifies the Action Area as directly in a bundle of migration paths.[83] The eastern half of Ohio as well as the far western portion of Ohio, on the other hand, shows few migration paths. The siting of the Project directly in a major Indiana bat migration corridor cannot constitute avoidance as stated in the USFWS guidelines, particularly when the available data show many other locations in Ohio not in a migration path.

Furthermore, the DEIS explains that mist-netting and habitat surveys conducted in 2008 and 2009 indicated the presence of Indiana bats and 43 roost trees in Bellefontaine Ridge, an area overlapping the northern portion of the action area. These surveys took place early in project planning; yet, rather than pursue other locations for project development, the Applicant chose merely to redesign the wind facility. The sufficiency of these mitigation measures is questionable, and USFWS guidelines certainly indicate that relocation is a more desirable alternative. Given the strong evidence of Indiana bat activity in and around the proposed action area, it is confounding that USFWS continues to deem this location appropriate and maintains that the Project's siting design eliminates take of Indiana bats and Indiana bat habitat to the maximum extent practicable.[84]

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3. Reduced Number of Turbines

Even if the Project's current location were as suitable as any other location in Ohio, reasonable alternatives still exist for turbine siting at the chosen location. The DEIS states that reducing the number of turbines would not provide "a sufficient level of associated environmental benefits" since "the presence of even one turbine still poses some level of risk to Indiana bats."[85] This statement does not, however, preclude USFWS from investigating an

[82] DEIS, pp. 4-46 to 4.47, Figures 4.5-2 & 4.5-3.
[83] *See* DEIS, App. B, Figure 4-6. This is the DHCP's version of the same Figure and includes the dates.
[84] Furthermore, although the DEIS notes that the OPSB waived the requirements for a Site Alternative Analysis, the state agency's waiver is not dispositive of NEPA and ESA requirements. In fact, the Applicant's Waiver Application merely reiterated the same argument with respect to economic feasibility without any showing of why economic constraints prevented an alternate site study. A reading of the Waiver Application shows that the Applicant did not want to pursue an alternate site study because of existing contracts and already-completed planning. An applicant for an ITP takes a risk by fixating on a single site before an EIS is completed. *See* OPSB Application, Exhibit Y, Motion for Waiver, p. 6 (Apr. 2009), *available at* http://dis.puc.state.oh.us/TiffToPDf/A1001001A09D27B44217C54527.pdf.
[85] DEIS, p. 2-5.

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alternative to the project's current siting design. The proposed action area is segmented into habitat categories, with Category 1 encompassing land deemed most suitable as Indiana bat habitat and Category 4 encompassing land deemed least suitable for the Indiana bat. Even if the presence of just one turbine poses a risk to the Indiana bat, the location of that one turbine in the most suitable Indiana bat habitat likely poses a greater risk than the location of that one turbine in the least suitable Indiana bat habitat (if, that is, habitat suitability is a good predictor of bat use – see Comment 5.1). No explanation is provided to inform the reader why up to 10 turbines may be placed in Category 1 habitat rather than no turbines. If the Applicant is taking steps to minimize the project's impact to Indiana bats via siting, it is unclear why Category 1 habitat – those areas most suitable for the Indiana bat's roosting and foraging activities – was not entirely avoided. USFWS should explain what parameters and criteria it used in deciding that the siting of 10 turbines in Category 1 habitat constitutes avoidance to "the maximum extent practicable" and explain why other alternatives would result in either more take or the same amount of take of bats and/or suitable habitat. An alternative in which turbines are sited only in the lowest risk categories (i.e., Category 3 and 4) is a reasonable alternative to the Proposed Action. Or, if this option is technically infeasible, an explanation of infeasibility should be provided so that the public may understand what USFWS and the Applicant consider as avoidance "to the maximum extent practicable."

The rationale offered in the DEIS for not studying a different project design is clearly lacking. The DEIS must provide an explanation of why the proposed turbine siting, in USFWS's opinion, does indeed minimize take of Indiana bats to the maximum extent practicable.

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D. The DEIS Must Consider and Analyze Alternative Schemes for Cut-In Speed (Operational Feathering).

Even the set of operational alternatives that is considered is not a reasonable range of alternatives; the considered set omits reasonable and feasible alternatives that the best available science shows can better meet the DEIS's purposes and needs. Studies of the likely reduction in bat fatalities due to increasing cut-in speeds at two operating wind power facilities – Casselman and Fowler Ridge[86] – show that curtailing cut-in speed to 6.5 m/s would substantially reduce bat

[86] Arnett, et al., *Effectiveness of changing wind turbine cut-in speed to reduce bat fatalities at wind facilities. A final report submitted to the Bats and Wind Energy Cooperative* (May 2010); Good et al., *Bat Monitoring Studies at the Fowler Ridge Wind Energy Facility, Benton County, Indiana, April 13 – October 15, 2010, A report prepared for*

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mortality. Yet the highest cut-in speed proposed in the DEIS is 6.0 m/s and in Category 1 habitat only.[87] This curtailment proposal leaves un-minimized risk of Indiana bat fatalities due to turbine operation, for no justified reason. The studies to date show that 6.5 m/s is the cut-in speed that reduces bat fatalities substantially – not 6.0 m/s and not 5.75 m/s. In fact, there is no evidence that a cut-in speed of 6.0 m/s would reduce bat fatalities by the same amount as would 6.5 m/s. A choice of cut-in speed below 6.5 m/s is not indicated by the best available science presented and is arbitrary. Moreover, the application of categories of habitat suitability as a basis for proposing cut-in speeds is likely not valid for Indiana bats migrating through the Project area (see Comment 5.1).

A reasonable set of alternatives for operational feathering includes the following: (1) an alternative that sets a nightly cut-in speed at 6.5 m/s for all turbines in all habitats in all seasons; (2) an alternative that prohibits turbines from Category 1 and 2 habitats or shuts down those turbines nightly in the active seasons, and sets a nightly cut-in speed at 5.75 m/s for turbines in Category 3 and 4 habitats; (3) an alternative that sets a nightly cut-in speed at 6.5 m/s for turbines in Category 1 and 2 habitats and cut-in speeds of 5.75 to 6.0 m/s for turbines in Category 3 and 4 habitats; (4) an alternative that sets a nightly cut-in speed at 6.5 m/s for turbines in fall and summer only.

The DEIS's treatment of alternatives A and B illustrates that the range of alternatives considered is unreasonable. The Applicant asserts that Alternative A is not economically feasible, and that Alternative B does not meet the goals of USFWS to the same extent as the Proposed Action. Therefore, the choice is essentially between the Proposed Action and No Action.

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Neither the DEIS nor the DHCP elaborate on what constitutes "economically feasible." In order to assess whether a proposed alternative can in fact meet USFWS's needs of "protecting the Indiana bat's habitat to the maximum extent practicable" there needs to be a discussion of what constitutes commercial viability. Otherwise, it is impossible to conduct an objective and fair comparison of the competing alternatives. In any event, it may be assumed (from the Applicant's statement about economic viability) that should USFWS select Alternative A, the

Fowler Ridge Wind Farm (Jan. 28, 2011); *see also* Good et al., *Bat Monitoring Studies at the Fowler Ridge Wind Farm, Benton County, Indiana, April 1 – October 31, 2011, A report prepared for Fowler Ridge Wind Farm* (Jan. 31, 2012).

[87] DHCP, p. 126, Table 5-4a.

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Applicant would not move forward with the project as it would no longer be economically viable. If economic viability means profitability, Alternative A would not be profitable and therefore unmanageable. As mentioned above, if Alternative A is in fact not economically viable, it should have been eliminated from detailed study or, if retained for detailed study, the DEIS should present evidence for that claim to show that the conclusion is based on sound reasoning. The DEIS does not discuss the Applicant's renewable energy goals or threshold generation requirements for commercial viability. USFWS cannot approve the Proposed Action without considering an alternative that allows for economic feasibility but is more restrictive than that proposed by the Applicant. As it stands now, the comparison between the proposed Action and Alternative A is uninformative. It tells us nothing about the relative value and practicability of incrementally increasing cut-in speeds.

The DEIS explains that for the Proposed Action's "Fall Feathering Plan" the late summer/early fall cut-in speeds were selected based on acoustic monitoring studies and post-construction mortality monitoring studies that reported significant reductions in bat mortality rates at cut-in speeds of 5.0 m/s and 6.5 m/s.[88] The authors of the Casselman wind facility study – a study upon which the Applicant relies in part in proposing cut-in speeds – concluded that if the 6.5 m/s cut-in speed had been applied to all 23 turbines during the study period, the lost output would have amounted to only 1% of total annual output.[89] In other words, by applying a cut-in speed of 6.5 m/s to turbines, a measure indicated by the available science as relatively protective, lost power revenues would be negligible while bat mortality would be substantially reduced.

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And yet, the highest cut-in speed in the Proposed Action is 6.0 m/s in Category 1 habitat and only at certain times of the year. Neither the DEIS nor the DHCP explain why the Applicant chose 6.0 m/s rather than 6.5 m/s. The studies relied upon in the DEIS and DHCP, taken together, convey that commercial wind facilities can operate with cut-in speeds of 6.5 m/s and remain economically viable. If these studies represent the most up-to-date information regarding the impacts of cut-in speeds on bat mortality – and they are presented as such by the documents – USFWS must study an alternative that incorporates the actual findings of the study. Again, NEPA regulations require USFWS to "rigorously explore" all "[r]easonable alternatives" which

[88] DEIS, p. 3-12.
[89] Arnett et al., Effectiveness of Changing Wind Turbine Cut-in Speed to Reduce Bat Fatalities at Wind Facilities – 2008 Annual Report, p. 3 (2009), *available at* http://www.batsandwind.org/pdf/Curtailment_2008_Final_Report.pdf.

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"include those that are practical or feasible from the technical and economic standpoint and using common sense rather than simply desirable from the standpoint of the applicant."[90] Not only do the cut-in speed studies cited above indicate that cut-in speeds of 6.5 m/s are technologically workable but they also indicate that higher cut-in speeds are economically feasible.

In summary, USFWS has not adequately explored other alternatives to the Proposed Action that may be both technologically and economically feasible. The DEIS's analysis of the alternatives artificially and without adequate justification narrows the studied alternatives to two – the Proposed Action and No Action. The maximally restrictive operations Alternative A is deemed economically inviable, and the minimally restricted operations Alternative B does not meet USFWS's purpose and needs. In between the maximally and minimally restricted operational alternatives are a range of reasonable operational alternatives and reasonable non-operational alternatives. The DEIS's alternatives analysis as it currently stands violates NEPA.

COMMENT 4.2. THE STUDY AND COMPARISON OF THE FOUR ALTERNATIVES IS INSUFFICIENT AND DOES NOT CONSTITUTE A HARD LOOK AT THOSE ALTERNATIVES.

A. Background

The "heart of the EIS"[91] is the comparison of alternatives. An EIS is only "satisfactory if treatment of alternatives is sufficient to permit a reasoned choice among the various options."[92] CEQ regulation 40 C.F.R. § 1502.14 requires "substantial treatment" of the alternatives, so as to allow an objective and fair comparison of the proposed action and the alternatives studied. CEQ guidelines provide that "the degree of analysis devoted to each alternative in the EIS is to be substantially similar to that devoted to the 'proposed action.'"[93]

[90] USFWS, *National Environmental Policy Act Reference Handbook*, CEQ Guidance Regarding NEPA Regulations, Memorandum to Heads of Federal Agencies (1983), *available at* http://wsfrprograms.fws.gov/subpages/toolkitfiles/fwsnepa.pdf.
[91] CEQ, *Forty Most Asked Questions Concerning CEQ's NEPA Regulations*, Question 7 (Mar. 23, 1981).
[92] Druid Hills Civic Association v. Federal Highway Admin., 772 F.2d 700, 713 (11th Cir. 1985).
[93] CEQ, Forty Most Asked Questions Concerning CEQ's NEPA Regulations, Question 5b (Mar. 23, 1981).

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B. The Descriptions And Comparisons Of The Alternatives Are Confusing, Inconsistent, And Do Not Offer A Baseline From Which To Evaluate Them.

The DEIS studies four alternatives: Proposed Action, Maximally Restrictive Operations ("Alternative A"), Minimally Restrictive Operations ("Alternative B"), and No Action. We have already commented above that this is not a reasonable range of alternatives and thus violates NEPA. In addition, the explanation of these alternatives is inadequate. A reasoned choice requires the agency to clearly document the environmental advantages and risks of the proposed alternatives as completely and objectively as possible. Unfortunately, USFWS has not done so in the DEIS. The DEIS must be more descriptive and thorough.

USFWS repeatedly makes inconsistent statements so as to render the comparison of alternatives confusing. First, it is unclear whether the Proposed Action's "project components and associated infrastructure" include the "Siting Criteria" on page 3-3 or whether it merely includes the project components (i.e., turbines, service roads, electrical interconnect lines, etc.) as listed on pages 3-3 to 3-4.[94] Second, Table 3.5-1, which summarizes the key features of each alternative, indicates that two of the DHCP's components include (1) avoiding the removal of the three known Indiana bat roost trees in the action area and (2) conducting tree clearing between November 1 and March 31 to avoid potential mortality of Indiana bats that could result from removal of previously unidentified maternity roost trees. The Table notes that under Alternative A, the Maximally Restricted Operations Alternative, neither of these features would be implemented. And yet, Table 6.1-1, which summarizes the comparison of anticipated impacts for each alternative, indicates that as with the Proposed Action, habitat loss would occur only under Alternative A during construction in the non-roosting season so as to preclude direct effects to Indiana bats.

A complete and thorough discussion of the alternatives in the DEIS is clearly lacking. The inconsistencies throughout the DEIS serve only to confuse the reader. If the two key features of the HCP mentioned above – the non-removal of known Indiana bat maternity trees and the timing of tree clearing – are not in fact incorporated into Alternative A, as Table 3.5-1 would suggest, then the analysis of direct and indirect impacts to the Indiana bat and its habitat under section 5.5 is inaccurate. If the known maternity roost trees are removed, the impact to the Indiana bat's habitat is in fact greater than that described in the DEIS. Similarly, if tree clearing

[94] *See also* DEIS, Table 3.5-1.

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is conducted during the roosting period, the risk of take of Indiana bats is much greater than if tree clearing is conducted from November through March. USFWS must reassess the descriptions of the alternatives and give a baseline from which the alternatives differ. As it stands, it is unclear which avoidance and mitigation measures correspond to each and which do not.

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C. The Treatment of Alternatives Shows a Bias In Favor of the Proposed Action, And as a Result, the DEIS Fails to Give Substantial Treatment to the Other Alternatives.

To illustrate the appearance of bias in favor of the Applicant's Proposed Action, one need only look at the brief and bare discussions of Alternatives A and B. With respect to the cumulative impacts on migratory birds, for example, the DEIS spends pages 5-158 to 5-173 on the Proposed Action's cumulative impacts, a total of 15 pages. The summary paragraph concludes:

> Migratory bird collisions at man-made structures including wind turbines, communication towers, windows, and transmission lines, may account for 278 million to more than 1.1 billion birds per year and could equate to as many as 33.75 billion birds over the life the Buckeye Project, resulting in a significant cumulative impact. Mortality is likely to be distributed across many groups and species, but most (approximately 70%) would be comprised of passerines. Fatalities of a single passerine species could number as many as 12,700 in a year based on certain projections . . . For many common species of migratory birds, this level of mortality would not significantly impact the ability of the larger population to survive, but for rare species and local populations of some species, this mortality level could affect long-term viability of the species or its distribution locally . . . Many measures that Buckeye Wind is proposing within their ABPP would avoid and minimize the potential for bird strikes to occur at their facility. These measures would prevent large-scale episodic mortality events and minimize bird attraction to the facility. The proposed avoidance and minimization measures that would be implemented by Buckeye Wind should substantially reduce the likelihood that mortality of migratory birds at their facility would be significant or substantially additive from a regional cumulative effects perspective. Should other wind and communication towers and buildings in the eastern flyways zone implement lighting protocols to reduce attraction of birds and implement an ABPP similar to that proposed by Buckeye Wind, cumulative bird collision mortality could be substantially reduced.[95]

[95] DEIS, pp. 5-172 to 5-173.

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The discussion of Alternatives A and B are each a single paragraph compared to the Proposed Action's fifteen page discussion. That a single paragraph satisfies "substantial treatment" is questionable, especially considering the fifteen pages dedicated to the Proposed Action. The cumulative impacts to migratory birds under Alternative A reads as follows:

> The operational adjustment under Alternative A would involve all 100 turbines being non-operational from sunset to sunrise from April 1 through October 31, which would reduce the collision risk to night-flying birds during this period. Birds would still experience collision risks associated with early spring and late-fall migration. Diurnally active migratory and resident birds and winter resident birds would also be exposed to collision risk during their regular activities within the Action Area. It can be assumed that mortality impacts to bird species would be similar to the Proposed Action during the period from November 1 through March 31, but somewhat lower from April 1 through October 31. Therefore, the cumulative effects of Alternative A on migratory species would be much less than those of the Proposed Action, *although this alternative is not economically feasible for the Applicant. The Proposed Action, which includes feathering and modified cut-in speeds, is economically feasible and would not contribute significantly to cumulative effects on migratory birds*.[96]

Notably missing from the discussion is any quantitative data to provide meaning and context for the terms "somewhat lower" or "much less." Courts have found that "[g]eneral statements about 'possible effects' and 'some risk' do not constitute a 'hard look' absent a justification regarding why more definitive information could not be provided."[97] But even more perplexing is the inclusion of the worth of the Proposed Action in the discussion of Alternative A's cumulative effects. Rather than providing an objective statement about cumulative impacts to migratory birds under Alternative A, the DEIS instead makes a statement that borders on justification for preferring the Proposed Action. It becomes even more problematic when one considers the paragraph on Alternative B:

> The operational adjustment under Alternative B would involve feathering turbines until cut-in speeds of 5.0 m/s (11 mph) for all 100 turbines during the first one to six hours after sunset from August 1 through October 31. The effects of feathering on birds are not well known, and reduced cut-in speeds have not been clearly shown to reduce bird deaths. However, given the minimal operational restrictions, it is likely that this alternative would result in higher levels of mortality than under the Proposed Action or Alternative A, and would therefore increase the cumulative effects on bird species in the region.[98]

[96] DEIS, p. 5-172 (emphasis added).
[97] Neighbors of Cuddy Mountain v. US Forest Service, 137 F.3d 1372, 1380 (9th Cir. 1998).
[98] DEIS, p. 5-172.

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Taken together, the cumulative impacts assessment on migratory birds is overly suggestive of the worth of the Proposed Action. If Alternative B increases cumulative effects and Alternative A is not economically feasible, then the only viable alternative to No Action is the Proposed Action. This does not represent an objective and reasonable evaluation of alternatives. Most of the other sections in the DEIS incorporate the same pattern of bias and give undue weight to the merits of the Proposed Action.

5
ITP ISSUANCE CRITERION–MINIMIZE AND MITIGATE TO THE MAXIMUM EXTENT PRACTICABLE

DHCP/ESA

0030-20

COMMENT 5.1. THE DHCP'S PROPOSED OPERATIONAL CHANGES TO CUT-IN SPEEDS (OPERATIONAL FEATHERING) DO NOT MEET THE "MINIMIZE TO THE MAXIMUM EXTENT PRACTICABLE" STANDARD.

A. Background

To issue an ITP, USFWS must find that the Project's applicant will, to the maximum extent practicable, minimize and mitigate the impacts of the taking.[99] This is also part of the goal stated in Section 1.2 of the DHCP.

According to the HCP/ITP Handbook,[100] USFWS ultimately must decide, at the conclusion of the permit application processing phase, whether the minimization and mitigation program proposed by the applicant has satisfied this statutory issuance criterion. The finding that the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking, typically requires consideration of two factors: adequacy of the minimization and mitigation program and whether it is the maximum that can be practically implemented by the applicant. "To the extent that the minimization and mitigation program can be demonstrated to provide substantial benefits to the species, less emphasis can be placed on the second factor. However, particularly where the adequacy of the mitigation is a close call, the record must

[99] 16 U.S.C. § 1539(a)(2)(B); 50 C.F.R. § 17.22(b); USFWS, *Habitat Conservation Planning and Incidental Take Permit Processing Handbook* (Nov. 4, 1996), pp. 7-3 to 7-4.
[100] USFWS, *Habitat Conservation Planning and Incidental Take Permit Processing Handbook* (Nov. 4, 1996).

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contain some basis to conclude that the proposed program is the maximum that can be reasonably required by that applicant. This may require weighing the costs of implementing additional mitigation, benefits and costs of implementing additional mitigation, the amount of mitigation provided by other applicants in similar situations, and the abilities of that particular applicant."[101]

USFWS's 2011 Wind Energy Projects Guidance[102] provides additional guidance regarding this permit issuance criterion. In the guidance, USFWS addressed the question, "What does 'minimize and mitigate to the maximum extent practicable' mean?" The agency response is as follows:

> Response: This issuance criterion requires us to evaluate the effectiveness of the applicants' proposed minimization and mitigation measures. It is important to understand that in doing so, we must focus solely on measures to be undertaken to reduce the likelihood and extent of the impact of take resulting from the project as proposed, as well as appropriate compensatory measures. We interpret this section to mean that the impacts of the proposed project, including the HCP, which were not eliminated through informal negotiation *must be minimized to the maximum extent practicable and those remaining impacts that cannot be further minimized must be mitigated to the maximum extent practicable. These standards are based in a biological determination of the impacts of the project as proposed, what would further minimize those impacts, and then what would biologically mitigate or compensate for those remaining biological impacts.*
>
> If applicants provide biologically based minimization measures and mitigation measures that are fully commensurate with the level of impacts, they have minimized and mitigated to the maximum extent practicable. It is only where certain constraints may preclude full minimization or full mitigation that the "practicability" issue needs to be addressed more thoroughly. *In those circumstances where the applicant cannot fully achieve the minimization and mitigation standards, we must evaluate whether the applicant has still minimized and mitigated to the maximum extent practicable.* Note, in issuing the ITP we must not appreciably reduce the likelihood of survival and recovery of the species in the wild. Inability to fully compensate for the impacts of the take may make this criterion difficult to satisfy. *Factors to be considered in the practicability analysis may include constraints based on the site itself, availability of mitigation habitat, timing and nature of the project, the financial means of the applicant, costs and time associated with redesign and going through local and state permitting and zoning processes, etc. We must evaluate whether the applicant has provided reasonable explanations concerning constraints and independently*

[101] USFWS, *Habitat Conservation Planning and Incidental Take Permit Processing Handbook* (Nov. 4, 1996), pp. 7-3 to 7-4.
[102] USFWS, *Indiana Bat Section 7 and Section 10 Guidance for Wind Energy Projects, Revised* (Oct. 26, 2011).

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> *review the record of evidence supporting the applicant's assertions*. The practicability evaluation is necessarily project specific, and may properly yield different determinations in different situations. [103]

USFWS addressed two further questions in the guidance that are relevant to the issuance criterion:

> 68. Is it allowable for an applicant to mitigate in lieu of minimization measures, or must the applicant first minimize if possible? Response: An applicant must first minimize to the maximum extent practicable.
>
> 69. How do developers demonstrate "to the maximum extent practicable" when it comes to siting wind projects? How do we evaluate whether their "demonstration" is sufficient? Response: In reviewing an applicant's HCP, the Service must analyze the biological impacts of the project on the covered species. If the proposed siting of some or all of the turbines will cause impacts to the species the applicant should minimize those impacts by moving the turbines to more suitable locations. If an applicant is unwilling to move the turbines to further minimize the impacts due to economic reasons, the Service should require them to provide justification why they are unable to do so. An independent analysis or third party should review the information provided by the applicant to verify they have sited the turbines to the maximum extent practicable.[104]

A third source of guidance that is relevant to the ESA permit issuance criterion that the impact of take must be minimized to the maximum extent practicable is USFWS's interpretation of the practicability criterion in the Bald and Golden Eagle Protection Act. USFWS applies the "practicability" criterion for standard (one-time) eagle take permits. In determining whether to issue a standard permit, the agency evaluates, among other things, "*Whether the applicant has proposed avoidance and minimization measures to reduce the take to the maximum degree practicable*."[105] USFWS must find, before issuing the permit, that "[t]he taking cannot practicably be avoided" and that "[t]he applicant has avoided and minimized impacts to eagles to the extent practicable."[106] The regulations define the term "practicable" as "capable of being done after taking into consideration, relative to the magnitude of the impacts to eagles, the following three things: the cost of remedy compared to proponent resources; existing

[103] USFWS, *Indiana Bat Section 7 and Section 10 Guidance for Wind Energy Projects, Revised* (Oct. 26, 2011), p. 47.
[104] *Id*. at pp. 47–48.
[105] 50 C.F.R. § 22.26(e)(3) (emphasis added).
[106] 50 C.F.R. § 22.26(f).

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technology; and logistics in light of overall project purposes."[107] In its response to public comments on the 2009 final eagle rule, USFWS provided examples of evaluating two factors – the magnitude of the impacts to eagles, and the resources of the project proponent – to determine whether a proposed set of conservation measures meets the criterion that "[t]he applicant has avoided and minimized impacts to eagles to the extent practicable."[108] FWS explained how it might apply these two factors by giving examples in which it varied one factor at a time: i.e., varying the level of proponent resources while holding impact to eagles constant,[109] and then varying impact while holding proponent resources constant.[110]

B. The Proposed Set of Cut-In Speeds (Operational Feathering) Does Not Satisfy the Permit Issuance Criterion and DHCP Goal of Minimization of Take.

An applicant for an ITP must first minimize take to the maximum extent practicable before he or she mitigates the remaining take to the maximum extent practicable.[111] The operational measures proposed in the DHCP, in particular the proposed cut-in speeds, do not satisfy the permit issuance criterion and DHCP goal of minimizing the impact of the likely take as predicted by the Risk Model and cut-in speed studies.

[107] 50 C.F.R. § 22.3.
[108] 74 Fed. Reg. 46836 (Sept. 11, 2009); *see also* 50 C.F.R. § 22.26(f).
[109] *See* 74 Fed. Reg. at 46853 ("In fact, we do believe that more stringent measures are appropriate for project proponents with more financial means. The plainest meaning of 'practicable' is 'capable of being done.' Greater resources, financial and otherwise, enhance capability and increase options. For example, a large landowner will generally have more options when designing a project than a small landowner. Thus, a large land-holding company building on 500 acres should be able to site proposed buildings farther from a communal roost than would a private homeowner on a 2-acre lot. Similarly, if the potential remedies for avoiding the take entail more money as opposed to more land, a proposed, large commercial project that is likely to take eagles may be able to alter the project design in a manner that requires additional financial resources but avoids the take, and still make enough money to be profitable."); *see also* 74 Fed. Reg. at 46865 ("We believe 'practicable' inherently encompasses consideration of what the proponent can muster and marshal towards achieving a goal, whether it be money, time, ingenuity, or other factors that contribute to the chances of being able to accomplish something. Our inclusion of the phrase 'the cost of remedy comparative with proponent resources' was intended to confirm the integral role such a consideration plays in determining what is practicable.").
[110] *See* 74 Fed. Reg. at 46865 ("The phrase 'relative to the magnitude of the impacts to eagles' is important because whether something is practicable is relative to the risk of not doing it. If the adverse impact is small, it may be impracticable to undertake enormously costly measures to avoid it, but it if the impact will be extremely detrimental, increased measures may be deemed reasonable and practicable. For example, it may not be practicable to find a new site for a proposed larger scale wind turbine project in order to avoid disturbing one nesting pair of eagles, whereas it may be considered practicable to find an alternative if the site originally proposed was within a major migration corridor for Golden Eagles and would likely result in significant eagle mortalities.").
[111] USFWS, *Indiana Bat Section 7 and Section 10 Guidance for Wind Energy Projects, Revised* (Oct. 26, 2011), p. 47 ("68. Is it allowable for an applicant to mitigate in lieu of minimization measures, or must the applicant first minimize if possible? Response: An applicant must first minimize to the maximum extent practicable.").

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The DHCP's assessment of the likely reduction in bat fatalities due to increasing cut-in speeds relies on studies at two operating wind power facilities – Casselman and Fowler Ridge – to develop its proposed minimization measures.[112] The DHCP describes the results of these studies:

> The relationship between low wind speed and high activity is reinforced by operational curtailment experiments which have documented reductions in bat mortality by reducing the speed at which turbines become operational, or the "cut-in speed". During 2 years of study during the peak fall fatality period at the Cassleman, PA, wind facility, 12 turbines were randomly assigned each night to 1 of 3 experimental groups: fully operational, cut-in speed of 5.0 m/s, or cut-in speed of 6.5 m/s. Total fatalities at fully operational turbines were estimated to be 5.4 times greater on average than at curtailed turbines in 2008, and 3.6 times greater in 20094. In other words, 82% (95% confidence interval [CI] = 52% to 93%) of all fatalities at experimental turbines in 2008 and 72% (CI = 44% to 86%) in 2009 likely occurred when the turbines were fully operational (Arnett et al. 2010).
>
> A similar study was conducted at the Fowler Ridge, IN wind facility in 2010, after the first documented Indiana bat fatality was discovered there in 2009 (Good et al. 2011). From 1 August 2010 to 15 October 2010, 27 turbines were randomly assigned on a weekly basis to 1 of 3 experimental groups: fully operational, cut-in speed of 5.0 m/s, or cut-in speed of 6.5 m/s. An additional 9 turbines were fully operational for the entire survey period. Curtailment at 5.0 m/s was found to reduce mortality by 50% (90% CI = 37% to 61%), and curtailment at 6.5 m/s was found to reduce mortality by 79% (90% CI = 71% to 85%).[113]

Good et al. found a statistically significant difference between the cut-in speed treatments of 5.0 m/s and 6.5 m/s, although wind speeds at Casselman were not within the range required to show a statistical difference between the two cut-in speeds for a long enough period of time.[114] In any case, the DHCP presents these studies as the best available science on the effects of curtailing cut-in speeds of wind turbines. Both studies found that curtailing cut-in speed up to 6.5 m/s would substantially reduce bat mortality. Yet, the highest cut-in speed proposed in the

[112] Arnett et al., *Effectiveness of changing wind turbine cut-in speed to reduce bat fatalities at wind facilities. A final report submitted to the Bats and Wind Energy Cooperative* (May 2010); Good et al., *Bat Monitoring Studies at the Fowler Ridge Wind Energy Facility, Benton County, Indiana, April 13 – October 15, 2010, A report prepared for Fowler Ridge Wind Farm* (Jan. 28, 2011); *see also* Good et al., *Bat Monitoring Studies at the Fowler Ridge Wind Farm, Benton County, Indiana, April 1 – October 31, 2011, A report prepared for Fowler Ridge Wind Farm* (Jan. 31, 2012).
[113] *See* DHCP, p. 19
[114] *See* DHCP, p. 19, fn. 4.

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DHCP is 6.0 m/s and in Category 1 habitat only.[115] This curtailment proposal leaves un-minimized risk of Indiana bat fatalities due to turbine operation, for no justified reason. The studies to date show that 6.5 m/s is the cut-in speed that reduces bat fatalities substantially – not 6.0 m/s and not 5.75 m/s. In fact, there is no evidence that a cut-in speed of 6.0 m/s would reduce bat fatalities by the same amount as would 6.5 m/s. A choice of cut-in speed below 6.5 m/s is not indicated by the best available science presented and is arbitrary. Thus, for modification of cut-in speed as a curtailment method, a baseline cut-in speed of 6.5 m/s is the only non-arbitrary choice for minimizing Indiana bat take to the maximum extent practicable, as is particularly important if turbines end up being located in the highest risk Category 1 habitat.

The DHCP presents reasons why it concludes that the proposed plan for minimizing take satisfies the "adequacy" requirement under USFWS's interpretation of the issuance criterion.[116] This conclusion is inconsistent with the risk modeling presented as the best available science. First, as discussed in Comment 3.1, the Risk Model indicates that baseline take may be much higher than accounted for by the DHCP's decision to collapse all the information on uncertainty and use a global average of the outputs. Second, as discussed above, the studies of cut-in speed relied upon by the DHCP show that substantial benefit if gained by increasing cut-in speed to 6.5m/s.

Thus, the choice of the baseline cut-in speed of 6.0 m/s is arbitrary, particularly in Category 1 habitats, and is not shown to be adequate to minimize the effects of the take of Indiana bats. Even if the adequacy of the proposed minimization plan is a close call, its adequacy should be considered together with the "practicability" prong of the issuance criterion.[117]

[115] DHCP, p. 126, Table 5-4a.
[116] DHCP, p. 217.
[117] USFWS, *Habitat Conservation Planning and Incidental Take Permit Processing Handbook* (Nov. 4, 1996), pp. 7-3 to 7-4.

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C. The DHCP Presents No Evidence or Explanation That It Would Be Impracticable to Apply a Cut-In Speed of 6.5 m/s, Which Is Shown by the Best Available Science to Substantially Reduce Bat Morality.

The DHCP's analysis of "practicability"[118] is inadequate for at least two reasons. First, as discussed in Section 5 above, a full range of reasonable alternatives is not evaluated, and so the practicability analysis is incomplete with regard to the range of alternatives considered. The draft analysis considers only two alternatives: the proposed action and the maximally restrictive operations alternative.[119] Other reasonable alternatives, such as applying the cut-in speed of 6.5 m/s as indicated by the best available science to minimize Indiana bat fatalities, were not considered. For example, the DHCP presents no evidence or explanation that applying a cut-in speed of 6.5 m/s in Category 1 (highest risk) and Category 2 (moderate risk) habitat, at least, would be impracticable. Contrary to the DHCP's suggestion that operational constraints more restrictive than those proposed in the DHCP would be uncertain, the benefit of a cut-in speed of 6.5 m/s is well documented by the Casselman and Fowler Ridge studies. The burden is on the Applicant to present evidence that the proposed cut-in speeds are as effective as the cut-in speed of 6.5 m/s, particularly in Category 1 and Category 2 habitats. The record does not to date contain any basis to conclude that the proposed program of minimization is the maximum that can be reasonably required of the Applicant.

Second, the practicability analysis for the proposed alternative and maximally restrictive alternative is inadequate even for those limited alternatives considered. The DHCP's analysis considers one factor only: the estimated costs of the minimization and mitigation measures to the Project expressed in implementation costs and lost revenues. Costs by themselves do not indicate "practicability" as that term is used in the ESA regulations. As discussed in the Background for this Comment, implementation and opportunity costs of an alternative must be considered in the context of several other factors, such as magnitude of the predicted impacts, the Applicant's resources, existing technology, and constraints on the Project. The DHCP's apparent conclusion that the maximally restrictive operations alternative is impracticable simply because "the cost of minimization would be significantly greater" and because the alternative "would place substantial additional financial burden on the Project" relative to the proposed

[118] DHCP, pp. 218–219

[119] In the maximally restrictive operations alternative, all 100 planned turbines would be non-operational from sunset to sunrise from April 1 to October 31 of each year.

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alternative is unwarranted by the analysis presented. For example, costs in the millions are relatively minor if expected revenues are substantially larger or if the Applicant has sufficient resources earned in other operations.

In fact, the DHCP focuses on project "viability" in its statement of purpose and need for the Project. For example, the final two purposes and needs of the Buckeye Wind Project are to "[l]ocate wind facilities in areas where adequate wind resources are available *to make commercial wind development possible*," and "[c]onstruct wind facilities with turbines of adequate size and number to be operated in a manner that allows them to be *economically viable*."[120] The DHCP explains project viability further:

> 1.3.3 Project Viability
> Quality of wind resource, proximity to the bulk power transmission system, and availability of land are the primary factors driving the initial site selection of any wind power project. In addition to these factors, wind energy facilities also require an adequate number of appropriately-sized turbines to produce sufficient power to provide an economic return. The manner in which these turbines are operated also affects a wind facility's economic viability; increases to the manufacturer's specified cut-in speeds can impact annual power production and revenue.[121]

The DHCP's practicability analysis does not put the costs of minimization measures in the context of economic viability. The HCP should, but does not, address whether the costs of any alternative would make the Project economically inviable.

The DHCP's suggestion that an adaptive management plan and uncertainty in benefits of curtailment justify the conclusion of impracticability is unwarranted. An adaptive management plan cannot be invoked to substitute for measures that are indicated by the best available science to constitute minimization to the maximum extent practicable. Moreover, contrary to the DHCP's suggestion, the benefit of the maximally restrictive operations alternative is relatively certain: bat mortality would be expected to be zero because turbines would not be spinning during the main period of bat activity. Again, the DHCP's conclusion that the proposed operational measures minimize the impacts of take to the maximum extent practicable is not warranted by the practicability analysis presented.

[120] DHCP, p. 10 (emphasis added).
[121] DHCP, p. 12.

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This Project and ITP are but the beginning of a wave of similar projects and ITP applications as wind power development surges forward. The cumulative impact of wind power development is potentially severe for the Indiana bat and other hibernating bats as well as for tree bat species such as the red bat (*Lasiurus borealis*), hoary bat (*Lasiurus cinereus*), and silver-haired bat (*Lasionycteris noctivagans*).[122] The Service now has an opportunity to ensure that wind power is developed in an environmentally responsible and sustainable manner that is protective of bats and other wildlife. It is imperative that the plan for avoidance and minimization of bat fatalities in this HCP squarely meets the issuance criterion to "minimize the impacts of take to the maximum extent practicable."

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D. The Application of the Proposed Habitat Suitability Categories to Migrating Indiana Bats Is Not Adequately Supported by the Best Available Science, and Thus Differentiation of Minimization Measures by Habitat Category Is Not Warranted for Those Bats.

The DHCP does not adequately justify why *migrating* bats using Category 2 and Category 3 habitats should not receive the same amount of protection from turbine-caused mortality, via a 6.5 m/s cut-in speed, as bats using Category 1 habitat. First, the habitat suitability model in draft Appendix B applies to summer habitat only, and not to migration habitat. The DHCP states that the delineated habitat categories were developed based on telemetry data from summer foraging and roosting Indiana bats, even though the DHCP goes on to briefly, but inadequately, argue that these same categories present varying levels of risk during migration. Second, studies indicate that Indiana bats may fly direct routes without respect to landscape structure or habitat. Third, even if summering Indiana bats use the habitat Categories differently in extent or degree, all of the habitats are "suitable" for Indiana bats. The DHCP itself states that "[f]or purposes of the risk analysis, Categories 1, 2 and 3 were considered suitable roosting and foraging habitat."[123] Fourth, even with the results of the summer habitat suitability model, how bat presence and mortality are related to landscape and habitat features is highly uncertain. The Service has recently stated that there is "currently no reliable method for

[122] *See, e.g.,* Cryan, *Wind Turbines as Landscape Impediments to the Migratory Connectivity of Bats*, Environmental Law 41, 355–370 (2011).
[123] DHCP, p. 171.

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determining or evaluating the relative value of [different] areas as summer habitat for the Indiana bat."[124]

Thus, even if Category 2 and Category 3 habitats are indeed less suitable summer habitat and may be used with less frequency than Category 1 summer habitat, the DHCP does not take a hard look at why risk of exposure to turbines would significantly differ among the three habitat categories for Indiana bats *migrating through the action area*. The DHCP's argument that the summer habitat categories present varying levels of risk for migrating Indiana bats is cursory, speculative, and inadequately supported. The DHCP estimates that approximately 5800 Indiana bats will fly through the action area during spring and fall migration.[125] If the Applicant desires to base its minimization measures on the conjecture that those Indiana bats will differentiate between the three categories of habitat during migration, then the HCP must provide evidence of such differentiation.

To summarize, the best available science indicates that 6.5 m/s is the proper baseline cut-in speed to minimize the impacts of take to the maximum extent practicable, especially in habitat Categories 1 and 2 for bats summering in the action area and in habitat Categories 1, 2, and 3 for bats migrating through to other locations. We suggest that if several years of monitoring during the operational phase of the facility indicates that a 6.5 m/s cut-in speed in Category 2 or 3 habitats is associated with zero fatalities, then the adaptive management plan may provide for incrementally dropping the cut-in speed in response to the lack of take in those habitats.

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E. The Application of the Proposed Habitat Suitability Categories to Indiana Bat Maternity Colonies Should Be Viewed With Caution.

The results of the habitat suitability model are used in the DHCP to set different cut-in speeds for turbines in different habitat Categories. This sub-comment cautions against the general use of this method to identify differences in minimization and mitigation measures, particularly where Indiana bat maternity colonies may be undetected. Evidence suggests that we should have limited confidence in the validity of the habitat suitability categories as applied to areas containing maternity colonies. In USFWS's biological opinion for the current plan to

[124] 72 Fed. Reg. 9916, *Endangered and Threatened Wildlife and Plants; 90-Day and 12-Month Findings on a Petition To Revise Critical Habitat for the Indiana Bat* (Mar. 6, 2007).
[125] DHCP, p. 6.

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extend Interstate 69 from Evansville to Indianapolis, Indiana, the agency observed, "Because the Indiana bat is philopatric (i.e., loyal to its traditional summering area), there is currently no evidence to suggest that all maternity colonies are located in optimal foraging and roosting habitat. A possibility that may have contributed to the species' decline is that many existing maternity colonies are senescent (i.e., deaths outnumber births) or are population sinks."[126] Moreover, of the 13 Indiana bat maternity colonies that would be affected by the I-69 project, USFWS identified four maternity colonies deemed to be of high concern for their long-term viability and conservation. All four of those high-concern colonies are located in marginal to poor habitats.[127] Although USFWS's heightened concern for those colonies is due to both the poor habitat and development pressures, the point is that maternity colonies important to the Midwest RU may be located in low-suitability habitats.

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COMMENT 5.2. THE DHCP DOES NOT EXPLAIN WHY IT IS IMPRACTICABLE TO ADJUST THE LOCATIONS OF TURBINES TO MEET THE "MINIMIZE TO THE MAXIMUM EXTENT PRACTICABLE" STANDARD.

A. Background

According to the USFWS Wind Energy Project Guidance, siting of turbines should be adjusted to minimize their impacts.

> 69. How do developers demonstrate "to the maximum extent practicable" when it comes to siting wind projects? How do we evaluate whether their "demonstration" is sufficient?
>
> Response: In reviewing an applicant's HCP, the Service must analyze the biological impacts of the project on the covered species. If the proposed siting of some or all of the turbines will cause impacts to the species the applicant should minimize those impacts by moving the turbines to more suitable locations. If an applicant is unwilling to move the turbines to further minimize the impacts due to economic reasons, the Service should require them to provide justification why they are unable to do so. An independent analysis or third party should review the information provided by the applicant to verify they have sited the turbines to the maximum extent practicable.[128]

[126] USFWS, *Revised Programmatic Biological Opinion on the Proposed Construction, Operation, and Maintenance of Alternative 3C of Interstate I-69 from Evansville to Indianapolis* (Aug. 24, 2006), p. 43.
[127] *Id*. at 87.
[128] USFWS, *Indiana Bat Section 7 and Section 10 Guidance for Wind Energy Projects, Revised* (Oct. 26, 2011), p. 48.

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USFWS recommends in its 2011 Wind Energy Projects Guidance that Indiana bat maternity colony home range be delineated to include all suitable habitat within 5 miles of a capture location if only capture data are available; all suitable habitat within at least 2.5 miles of a single documented maternity roost tree; all suitable habitat within at least 2.5 miles of the line drawn between the two documented roost trees; and all suitable habitat within at least 2.5 miles of the center of the polygon created by connecting three or more documented roost trees.[129]

B. The DHCP Presents No Evidence or Explanation That It Would Be Impracticable to Locate Most of the Turbines at Least 2.5 Miles from Known Roost Trees and Maternity Colonies.

The DHCP fails to explain how placement of the turbines will be compatible with the standard assumption that foraging Indiana bats may travel 2.5 miles from their roosts. The choice to locate as many turbines as practicable beyond this 2.5 mile distance would be an important method for minimizing the impacts of the turbines on Indiana bats. In fact, estimated take could be reduced to very low levels with such adjustments in turbine siting. The DHCP does not consider or examine such adjustments in turbine location. Thus, until that analysis is completed, the DHCP cannot conclude that the proposed measures meet the issuance criterion to minimize the impacts of take to the maximum extent practicable.

C. The DHCP Presents No Evidence or Explanation That It Would Be Impracticable to Locate All Turbines Outside of Category 1 Habitat.

Category 1 habitat, as delineated by the summer habitat suitability model in draft Appendix B, comprises 12% of the proposed action area.[130] That is, 12% of the proposed action area was categorized as having the highest suitability for Indiana bat roosting and foraging activities. Locating all wind turbines *outside* of this Category 1 habitat might contribute substantially toward minimizing the take of Indiana bats. The DHCP should, but does not, consider and take a hard look at the contribution of this option to reducing take and the practicability of implementing this option. Thus, until that analysis is completed, the DHCP

[129] USFWS, *Indiana Bat Section 7 and Section 10 Guidance for Wind Energy Projects, Revised* (Oct. 26, 2011), pp. 8–13.
[130] DHCP, App. B, Table 4-7.

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cannot conclude that the proposed measures meet the issuance criterion to minimize the impacts of take to the maximum extent practicable.

6
CUMULATIVE IMPACTS AND EFFECTS

DEIS/NEPA

COMMENT 6.1. CUMULATIVE IMPACTS HAVE NOT BEEN ADEQUATELY ANALYZED.

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A. Background

USFWS recognizes that further information and analysis is needed regarding the cumulative impact of past, present, and future wind developments.[131] Individual impacts may appear small but, combined with other small projects, may collectively have significant impacts. In general, there is growing concern in the scientific community regarding the potential for bat kills and population declines given the rapid proliferation of wind power facilities and the large-scale mortality that has occurred at some facilities.

Under NEPA, cumulative impact analysis is broader than for ESA Section 7 purposes. "Cumulative impact" under NEPA is defined as "the impact on the environment [that] results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."[132] Cumulative impacts are thus the total effect, including both direct and indirect effects, on a given resource (in this case the endangered Indiana bat), of all actions taken, no matter who has taken the actions (federal, nonfederal, and private).[133] The CEQ advises that when analyzing the contribution of the proposed action to cumulative effects, the geographic boundaries of the analysis should be conducted at the scale of human communities, landscapes, airsheds, watersheds, or eco-regions.[134] Generally, the NEPA analyst must determine the geographic areas occupied by the affected resources outside of a project impact zone, and in most cases "the largest of these areas will be the appropriate area for the

[131] *See, e.g.*, USFWS, *Indiana Bat Draft Recovery Plan* (2007), p. 101.
[132] 40 C.F.R. § 1508.7.
[133] CEQ, *Considering Cumulative Effects Under the National Environmental Policy Act* (Jan. 1997), p. 8, *available at* http://ceq.hss.doe.gov/nepa/ccenepa/ccenepa.htm.
[134] *Id*. at 12-14.

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analysis of cumulative effects."[135] For example, for migratory wildlife the appropriate geographic scale of analysis would be the breeding grounds, migration route, and wintering areas of affected population units.[136]

An adequate cumulative impact analysis requires exploration of, among other things, "the trends for activities and impacts in the area."[137] Identification of activities and impacts are made by assessing, for example, "the proximity of the projects to each other either geographically or temporally; the probability of action affecting the same environmental system, especially systems that are susceptible to development pressures; the likelihood that the project will lead to a wide range of effects or lead to a number of associated projects; whether the effects of other projects are similar to those of the project under review; and the likelihood that the project will occur."[138]

Other sources of direct and indirect mortality for Indiana bats, besides wind power projects, include those listed in the 2007 Indiana bat draft recovery plan: quarrying and mining operations (summer and winter habitat), loss/degradation of summer/migration/swarming habitat, loss of forest habitat connectivity, some silvicultural practices and firewood collection, disease and parasites (e.g., WNS), predation, competition with other bat species, environmental contaminants (not just "pesticides"), climate change, and collisions with man-made objects (e.g., communication towers, airstrikes with airplanes, and roadkill).[139] Human disturbance at hibernacula also is still an important threat to Indiana bats.[140] Furthermore, the impacts of WNS may mask population declines resulting from projects and these other sources.

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B. The DEIS's Cumulative Impact Analysis Does Not, But Should, Consider the Spatial Distribution of Expected Development.

As discussed in Section 4, western Ohio appears to be more risky than eastern Ohio for migrating Indiana bats. In the DEIS, USFWS presents a map of Indiana bat summer records

[135] CEQ, *Considering Cumulative Effects Under the National Environmental Policy Act* (Jan. 1997), p. 15.
[136] *See, e.g.*, NRDC v. Hodel, 865 F.2d 288, 297-300 (D.C. Cir. 1988) (requiring the Secretary of Interior to analyze the cumulative effects of offshore drilling near California and Alaska together because whales and salmon would pass through both project drilling areas in the normal course of migration).
[137] EPA, *Consideration of Cumulative Impacts in EPA Review of NEPA Documents* (May 1999), section 4.3, *available at* http://www.epa.gov/compliance/resources/policies/nepa/cumulative.pdf.. section 4.3.
[138] *Id*.
[139] USFWS, *Indiana Bat Draft Recovery Plan* (2007); USFWS, *Indiana Bat (Myotis sodalis) 5-Year Review: Summary and Evaluation* (Sept. 2009), pp. 13–14.
[140] USFWS, *Indiana Bat 5-Year Review*, p. 15.

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(Figure 4.5-2) and a map of Indiana bat migration records (Figure 4.5-3).[141] Figure 4.5-3 in particular shows Indiana Bat Migration Records from 1971 to 2010 and identifies the action area as directly in a bundle of migration paths.[142] Both maps, but particularly the migration records map, indicate that Indiana bat migration paths are concentrated in western Ohio. The eastern half of Ohio, on the other hand, shows few migration paths. The DEIS should examine the implications of whether future projects that may take Indiana bats will be concentrated in some parts of Ohio rather than other parts. The spatial distribution of future sitings may affect the cumulative impacts on the Indiana bat and other bats and birds.

0030-27

C. The Geographic Scope Of The Cumulative Impacts Analysis on Indiana Bat Habitat Is Too Narrow.

In assessing the cumulative effects of the Proposed Action on bat *mortality*, the DEIS focuses on a wide geographic scale – the Midwest RU. The DEIS then inexplicably narrows its geographic scope to the proposed action area for the cumulative effects review on Indiana bat *habitat*. The DEIS avoids discussing the consequences to habitat loss and bat displacement on a larger scale. Habitat loss is a significant factor in cumulative effects analysis and should be comparable to the discussion on bat mortality in geographic scale.

To illustrate the inadequacy of the "Habitat Loss" discussion, the DEIS simply states that "[o]ther than ongoing agricultural and small-scale and periodic timber harvesting activities, which are occurring or may occur in the Action Area over the ITP Term, the USFWS is not aware of future federal, state, or private activities *in the Action Area* that would directly or indirectly affect habitat for Indiana bats or other bats."[143] The preceding discussion on bat mortality, however, was entirely focused on the Midwest RU.

The DEIS predicts that Ohio will nearly quadruple its wind energy production, from 112 MW in 2011 to 414.4 MW in 2035.[144] In Ohio, 2455 wind turbines are currently proposed.[145] USFWS must analyze the location of reasonably foreseeable wind facilities and whether, in the aggregate, there is any potential to impact the migratory connectivity or habitat availability for

[141] DEIS, pp. 4-46 to 4.47, Figures 4.5-2 & 4.5-3.
[142] *See* DEIS, App. B, Figure 4-6. This is the DHCP's version of the Figure and includes the dates.
[143] DEIS, p. 5-190 (emphasis added).
[144] DEIS, Table 5.15-6.
[145] DEIS, Table 5.15-4 & accompanying footnotes.

0030-27

bats. If all of the wind facilities are concentrated in places such as western Ohio where migratory paths of Indiana bats are concentrated, this raises a question as to the sustainability and trends of the Indiana bat population. If, on the other hand, wind resources will be fragmented throughout the State, or possibly concentrated in the eastern portion, the cumulative effects may be different.

0030-28

D. The Cumulative Impacts Analysis on Bats and Birds Ignores the Impact That Projected Wind Facility Construction Will Have on Migratory Behavior.

The cumulative impacts sections on birds and bats focus heavily on mortality rates. The calculations for those mortality rates take into consideration wind facilities that are currently operational, under construction, proposed, and expected by 2025 in the Midwest RU and eastern flyways zone.[146] The cumulative impacts analysis fails, however, to consider wildlife *behavior* in the face of increased wind facility construction. The DEIS does not inform the public about the potential behavioral changes, such as migration patterns, roosting, or feeding activities, that may change over the course of the next 30 years. If wind facilities are concentrated in a particular region, the impacts to wildlife habitat could be greater than currently implied by the DEIS. Birds and bats may be forced to shift their migratory patterns and seek other suitable habitat.

0030-29

E. The Cumulative Impacts Analysis of WNS is Inadequate.

The cumulative impacts analysis of WNS is likewise lacking. USFWS discusses the significance of the role that WNS could play in the viability of the species' survival but fails to identify the additional impact that wind facility projects in the aggregate will have in the worst-case scenario where WNS does cause a 70% decline in population in the Midwest RU as occurred in the Northeast RU. Instead, the DEIS focuses narrowly on this 100 turbine project, concluding that once mitigation measures are implemented, "[t]he reduction in take. . .would proportionately reduce the impact on overall population numbers, and therefore impacts of Project-related take are highly unlikely to appreciably reduce the likelihood of survival and recovery of the Midwest RU population under predicted WNS scenarios."[147] Later on in the

[146] DEIS, Tables 5.15-4 & 5.15-5.
[147] DEIS, p. 5-54.

0030-29

DEIS, however, USFWS states that "[i]f the Midwest RU Indiana bat population or other cave bat populations were substantially reduced as a result of WNS or other causes, the projected level of mortality resulting from wind turbines could have greater implications for the viability of the population and the cumulative effects of this Project and past, present, and reasonably foreseeable actions considered in this analysis could result in significant effects to the Indiana bat or other cave bat population size or distribution."[148] Our comments in Comment 3.2 are incorporated here by reference: we contend that the DHCP's and DEIS's conclusion that impacts of Project-related take are unlikely to appreciably reduce the likelihood of survival and recovery of the Midwest RU population under predicted WNS scenarios is unsupported and does not account for the dependence of the jeopardy determination on the status of the Midwest RU.

0030-30

COMMENT 6.2. THE DEIS DOES NOT, BUT SHOULD, TAKE A HARD LOOK AT THE BIOLOGICAL IMPLICATIONS OF CUMULATIVE IMPACTS BY USING THE LESLIE MATRIX MODEL.

The Leslie Matrix model results in Figure 5-2 of the DHCP[149] shows that the Project's impact to the Midwest RU is negative: that is, the requested take of Indiana bats by the Project alone, without other impacts such as WNS considered, causes a decline in the population abundance. Although the decline is relatively small – about 100 bats over 25 years – the significance of this result is that the natural reproduction of the populations is insufficient to compensate for the Project's take. The theory behind harvest limits is that the population will compensate for the harvest-induced mortality.[150] This Leslie Matrix model result begs the

[148] DEIS, p. 5-189.
[149] DHCP, p. 138.
[150] *See* McGowan et al., *The role of demographic compensation theory in incidental take assessments for endangered species,* Biological Conservation 144 (2): 730-737 (Feb. 2011). Abstract: "Many endangered species laws provide exceptions to legislated prohibitions through incidental take provisions as long as take is the result of unintended consequences of an otherwise legal activity. These allowances presumably invoke the theory of demographic compensation, commonly applied to harvested species, by allowing limited harm as long as the probability of the species' survival or recovery is not reduced appreciably. Demographic compensation requires some density-dependent limits on survival or reproduction in a species' annual cycle that can be alleviated through incidental take. Using a population model for piping plovers in the Great Plains, we found that when the population is in rapid decline or when there is no density dependence, the probability of quasi-extinction increased linearly with increasing take. However, when the population is near stability and subject to density-dependent survival, there was no relationship between quasi-extinction probability and take rates. We note however, that a brief examination of piping plover demography and annual cycles suggests little room for compensatory capacity. We argue that a population's capacity for demographic compensation of incidental take should be evaluated when considering incidental allowances because compensation is the only mechanism whereby a population can absorb the negative impacts of take without incurring a reduction in the probability of survival in the wild. With many endangered species there is probably little known about density dependence and compensatory capacity. Under these

0030-30

question regarding cumulative impact: what would the downward trajectory of the Indiana bat population look like if the existing and reasonably foreseeable future developments and projects in the Midwest RU are taking bats, with or without ITPs? This analysis was not but could have easily been completed to show the biological implications of the cumulative impacts in the Midwest RU. Moreover, what would the downward trajectory look like if that cumulative impact were added to possible impacts of WNS? Such an analysis would assist the agency in making the necessary determinations in this HCP/ITP process, and its absence reflects the failure of the DEIS to look hard at the cumulative impacts relevant to this proposed ITP.

DHCP/ESA

0030-31

COMMENT 6.3. THE DHCP MENTIONS A NEIGHBORING WIND FACILITY, BUT DOES NOT EXPLAIN WHY THIS FACILITY WAS OMITTED FROM THE CUMULATIVE EFFECTS ANALYSIS.

A. Background

Coordination of the HCP with Section 7 of the ESA requires USFWS to ensure that the Project is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat.[151] Section 7 implementing regulations require, among other things, analysis of the direct and indirect effects of a proposed action and the cumulative effects of other activities on listed species. ESA regulations define "cumulative effects" as "those effects of future State or private activities, not involving Federal activities, that are reasonably certain to occur within the action area of the Federal action subject to consultation."[152] The agency uses cumulative effects to assist with the assessment of jeopardy: the direct and indirect effects of an action on the species, together with the effects of other activities that are interrelated or interdependent with that action, are considered along with the environmental baseline and the predicted cumulative effects to determine the overall effects to the species for purposes of preparing a biological opinion on the

circumstances, using multiple system models (with and without compensation) to predict the population's response to incidental take and implementing follow-up monitoring to assess species response may be valuable in increasing knowledge and improving future decision making."

[151] USFWS, *Habitat Conservation Planning and Incidental Take Permit Processing Handbook* (Nov. 4, 1996), p. 3-15.

[152] 50 C.F.R. § 402.02.

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proposed action.[153] USFWS's responsibilities during formal Section 7 consultation include "[e]valuate[ing] the effects of the action and cumulative effects on the listed species or critical habitat" and "[f]ormulat[ing] its biological opinion as to whether the action, taken together with cumulative effects, is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat."[154]

B. The Completeness of the DHCP's Analysis of Cumulative Effects Is Unclear.

The DHCP's cumulative effects analysis is unclear in light of other discussions in the DHCP. The DHCP describes an "unrelated project" in Champaign County that may impact Indiana bats: "Mist-netting conducted in Champaign County during summer 2009 for an unrelated project resulted in the capture of 5 Indiana bats in the current Action Area."[155] This and other descriptions suggest that there may be at least one other project footprint within the Project's action area or there may be action areas associated with other projects that overlap with the Project's action area. The HCP should clearly explain the boundaries of the Project's action area and describe any other developments or projects whose action area would overlap with the Project's action area.

[153] USFWS & NMFS, *Endangered Species Consultation Handbook* (Mar. 1998), p. xiv; 50 C.F.R. § 402.02.
[154] 50 C.F.R. 402.14(g)(3) & (g)(4).
[155] DHCP, p. 1; *see also* DHCP, p. 6.

7
ADAPTIVE MANAGEMENT

DEIS/NEPA – DHCP/ESA

0030-32

COMMENT 7.1. THE PLANNED RESPONSE TO A DRASTIC POPULATION DECLINE CAUSED BY WNS DOES NOT REFLECT THE BEST SCIENCE AVAILABLE.

The DEIS highlights the devastating effect that WNS has had on the Northeast RU Indiana bat populations. Specifically, the DEIS notes that "since the onset of WNS in 2006-2007 significant population declines have been observed in the Northeast RU (70% decline between 2007–2011)."[156] USFWS predicts that as a result of "the extremely rapid rate at which WNS has spread over just 3 years, and the high mortality rates observed in the Northeast RU, population reductions of all cave bat species as a result of WNS in the Midwest RU are expected to increase . . . which makes additional mortality from other sources (i.e. wind power) even more significant."[157]

The DHCP describes the proposed take reductions as a result of WNS:

> As a result of past and anticipated future declines due to WNS, the recovery of the Indiana bat is dependent upon reversing the current rate of decline. Therefore, Buckeye Wind, in coordination with the USFWS, will review the biennial winter census results compiled by the USFWS Indiana Bat Recovery Team and if the population of Indiana bats in the Midwest RU is reduced by 50% or more from 2009 pre-WNS levels, Buckeye Wind will commit to reducing requested 5-year take limits by 50%. In this event, the 5-year take limit would be 13.0 Indiana bats (or average of 2.6 Indiana bats per year). These reductions in take will result from fewer Indiana bats exposed because of overall population declines, having an effective adaptive management plan in place, and voluntary reductions in take because as the population declines, each individual becomes more valuable to the population as a whole.[158]

The DHCP's plan is to reduce the requested take limit of Indiana bats by the same percentage of the population decline due to WNS – i.e., a 50% decline in the Midwest RU would trigger a 50% reduction in annual take. This response is not consistent with the stated

[156] DEIS, p. 4-43.
[157] DEIS, p. 5-188.
[158] DHCP, pp.141–142.

0030-32

justification: i.e., (1) that 50% fewer Indiana bats will be exposed because of the assumed linear relationship between overall population decline and the number of bats exposed to wind turbines in this particular action area; (2) that the adaptive management plan will kick in if that assumption is determined to be wrong; and (3) that "each individual becomes more valuable to the population as a whole."[159] In the absence of the last factor, the 50% reduction in requested take might be a reasonable response to a 50% drop in the Midwest RU population only if the assumption that reductions in bats at the hibernacula have a uniform effect on all maternity colonies and summer use areas holds up to evidence. The last factor, however, indicates that the proper response to a 50% drop in the Midwest RU population is to implement further minimization and mitigation measures to compensate for the increased significance of the adjusted take.

The DEIS and DHCP both point out that the significance of take increases as the status of the species becomes more dire. The DHCP states, "[A]s the population declines, each individual *becomes more valuable to the population as a whole*."[160] Similarly, the DEIS states, "Although population numbers in this RU are still seemingly high, given the extremely rapid rate at which WNS has spread over just 3 years, and the high mortality rates observed in the Northeast RU, population reductions of all cave bat species as a result of WNS in the Midwest RU are expected to increase . . . *which makes additional mortality from other sources (i.e. wind power) even more significant*."[161] The DEIS also states, "If the Midwest RU Indiana bat population or other cave bat populations were substantially reduced as a result of WNS or other causes, the projected level of mortality resulting from wind turbines *could have greater implications for the viability of the population and the cumulative effects of this Project and past, present, and reasonably foreseeable actions considered in this analysis could result in significant effects to the Indiana bat or other cave bat population size or distribution*."[162]

Thus, a 50% reduction in the species or Midwest RU population should trigger not only a reduced request of the take limit (due to fewer bats to encounter turbines) but also additional minimization and mitigation measures to account for the increased significance of the remaining population and take. This consideration should be considered or discussed in the DEIS and the

[159] DHCP, p. 141.
[160] DHCP, p. 141 (emphasis added).
[161] DEIS, p. 5-188 (emphasis added).
[162] DEIS, p. 5-189 (emphasis added).

0030-32

DHCP. In light of these considerations, the description of adaptive management measures for WNS is inadequate. There is no indication how the Applicant proposes to reduce the proportion of bats taken from the population in the event that the population of Indiana bats does indeed decrease by half. For example, it is unclear whether feathering will be increased to a higher cut-in speed at all turbines, or only at a selection of turbines depending on the habitat category, or whether the turbines will be shut off at certain times instead. Additionally, the DEIS provides no explanation for the choice of proposed measures – that is, feathering versus non-operational turbines. The DEIS and DHCP should also specify the population abundance at which these adaptive management measures will be implemented. There is an inconsistency between the 2009 pre-WNS rangewide population figures cited in the DEIS and the DHCP. Whereas the DEIS states that the 2009 rangewide population of Indiana bats was 415,512, and the 2009 population estimate for the Midwest RU was 281,909,[163] the DHCP puts the population of Indiana bats at 387,835 and the 2009 Midwest RU population estimate at 269,574.[164]

DHCP/ESA

0030-33

COMMENT 7.2. THE TRIGGERS FOR ADAPTIVE MANAGEMENT DO NOT, BUT SHOULD, INCLUDE CORRECTION FOR BIAS.

A. The Best Science Indicates that a Trigger Based on Uncorrected Observations of Dead Bats Substantially Underestimates the Actual Impact.

As the DHCP recognizes, unbiased estimates of bat mortality rates due to wind turbines are typically calculated using the number of observed carcasses and correcting that number for searcher efficiency, carcass persistence, the probability that a killed animal falls into a searched area, and searchable area.[165] Variation in bat mortality estimates among studies may be partially attributable to differences in monitoring methodology and correction factors among other variables.[166] However, the DHCP appears to be proposing in some instances to use triggers for adaptive management that are uncorrected for bias. Such use of uncorrected observations of fatalities is unwarranted and would hide the true take of Indiana bats.

[163] DEIS, p. 5-54.
[164] DHCP, pp. 56, 136.
[165] DHCP, p. 128; Korner-Nievergelt et al., *A new method to determine bird and bat fatality at wind energy turbines from carcass searches*, Wildl. Biol. 17: 350-363 (2011).
[166] DHCP, p. 92.

0030-33

To get an idea of the bias error associated with using uncorrected observations of bat fatalities at wind turbines, we evaluated the results from three studies of bat fatalities at turbines.[167] Table 1 shows the results of our evaluation. The table shows that on average, bat fatality estimates corrected for bias are four times the observed carcass count.

Table 1.

Source	**Uncorrected bat mortality**	**Corrected bat mortality during same study period**	**Multiplication factor**
Aaftab et al 2010	30/26 turbines =1.15 bats / turbine	396/89=4.45 bats/turbine	3.87
	45/26 =1.73 bats / turbine	636/89=7.14 bats/turbine	4.13
Mountaineer Wind Energy Center	10.6 bats / turbine	47 bats / turbine	4.43
Maple Ridge Wind Power Project	2.19 bats / turbine	8.18 bats / turbine	3.74
DHCP Trigger	2 bats (2/100 turbines = 0.02) bats / turbine	2 x 4(avg. correction factor) = 8 bats (0.08 bats / turbine)	4

B. The DHCP's Triggers for Adaptive Management Are Not Clearly Explained.

Section 6.5.3.4 of the DHCP describes a scheme for triggering "immediate adaptive management." The section states in relevant part as follows:

> During any year of post-construction monitoring, observed Indiana bat mortality rates may trigger the need for immediate adaptive management. *If 2 Indiana bat mortalities are documented* at the site before the fall season, cut-in speeds will be increased by 1.0 m/s at all turbines for the remainder of the active period (Figure 6-5). *Any additional documented* Indiana bat mortality before the fall season or 2 additiona fatalities during the fall season will result in all turbines being operated with a cut-in speed of 7.0 m/s. After the cut-in speeds are increased to 7.0 m/s, if additional Indiana bat mortality is documented all turbines will be turned off from 1 hour before sunset to 1 hour after sunrise for the remainder of the active period.

[167] Jain et al., *Bat Mortality and Activity at a Northern Iowa Wind Resource Area*, Amer. Midland Natur. 165: 185-200 (2010); Kerns & Kerlinger, *A Study of Bird and Bat Collision Fatalities at the Mountaineer Wind Energy Center, Tucker County, West Virginia*: *Annual Report for 2003* (Feb. 14, 2004); Jain et al., *Annual Report for the Maple Ridge Wind Power Project: Post-construction Bird and Bat Fatality Study – 2008* (May 14, 2009).

0030-33

> *If less than 2 Indiana bat mortalities are documented* before the fall season, *2 Indiana bat mortalities* in the fall season will trigger immediate adaptive management. *If no Indiana bat mortalities are documented* before the fall season and *3 Indiana bat mortalities are documented* at the site during the fall season, immediate adaptive management will be triggered. In either scenario cut-in speeds will be increased by 1.0 m/s for the remainder of the active period. *Any additional documented Indiana bat mortality* will result in all turbines being operated with a cut-in speed of 7.0 m/s. *If additional Indiana bat mortality is documented*, all turbines will be turned off from 1 hour before sunset to 1 hour after sunrise for the remainder of the active period.
>
> Without knowing the scavenger rate and searcher efficiency correction factors at this time, it is not possible to predict how many "estimated" Indiana bats would be calculated from a particular number of "observed" Indiana bats. *However, once a "trigger point" is reached, adaptive management is designed to identify when "observed" Indiana bats would indicate exceptionally high number of "estimated" Indiana bats and to ensure that the elevated take does not occur in any one year.* If a trigger event occurs in any year, adaptive management will be applied the following year according to the procedure following Greater than Expected Average mortality as described in section 6.5.3.4 – Greater Than Expected Average Mortality of Indiana Bats in Year-1.[168]

It is not clear from this discussion in the DHCP whether the trigger point is "observed" bat fatalities or an estimate of actual fatalities corrected for bias. Figure 6-5 indicates that a "documented mortality" is an observed carcass, but in section 6.5.2.8 the DHCP states that "in the time between creation of this HCP and commencement of post-construction mortality monitoring, and at times throughout the term of the ITP, it is highly likely that new formulas for estimating mortality based on observed carcasses will be developed." The HCP should clearly state whether the triggers for adaptive management are expressed in terms of raw observations of bat carcasses or in terms of estimates of fatalities corrected for bias.

C. The Adaptive Management Triggers Should Depend on Estimates of Mortality Corrected for Bias and Not on Raw (Uncorrected) Observations.

If the proposed trigger points for adaptive management set forth in the DHCP are expressed in terms of "observed" bat fatalities, these planned trigger points are unjustified and unacceptable. The above table shows that a correction factor of 4x is reasonable for converting observations of bat carcasses into estimates of actual mortality. Although a correction factor

[168] DHCP, pp. 209–210 (emphasis added).

0030-33

refined for the Project may differ, this 4x conversion factor provides an example of a rough but useful initial estimate. A rough correction is better than no correction, and that initial correction factor can be refined over time.

The rough correction factor of 4x indicates that if the trigger for immediate adaptive management (as discussed on pages 209-210 of the DHCP) is an uncorrected observation of 2 dead Indiana bats, then the corresponding actual mortality is likely to be in the vicinity of 8 dead Indiana bats, almost twice the proposed annual baseline take of 5.2. The reasonable response to this level of take is to turn off all turbines from 1 hour before sunset to one hour after sunrise, rather than incrementally increasing cut-in speeds (the suggested response). The trigger points for immediate adaptive management, expressed as observed fatalities, should therefore be set at one observed bat fatality.

Although the above comment focuses on the "immediate adaptive management" plan in Section 6.5.3.4 of the DHCP, the general principle that corrected estimates rather than raw observed fatalities should be the triggers for adaptive management applies to all triggers in the adaptive management plan.

Thank you for considering our comments.

Sincerely,

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COMMENTS ON THE PROPOSED HCP AND ITP OF BUCKEYE WIND

There are multiple considerations that need to be made in the review of the Buckeye Habitat Conservation Plan in Champaign County of Ohio. The plan as read is requesting an Incidental take permit of the endangered Indiana Brown Bat known to be present in Champaign, Logan and Hardin counties.

Evidence in the proposal does demonstrate some attention to the USFW Voluntary Guidelines for the protection of wildlife in wind facility areas. However there are multiple issues that increase the danger to not only the Indiana Brown Bat but also to other species of bats present within the approximately 80,051 acres of wind facility and Buckeye Wind's current plan for 100 wind turbines. As has been noted in many other areas of the United States most wind facilities have been known to add multiple turbines to previously approved sites. If the number of turbines were to increase over time there will be cause for further danger to bats. Have these issues been considered in the plan presented and are there further studies planned by Ohio Department of Natural Resources and/or the USFW if a request to increase the number of turbines within the current 80,051 acres.

0045-1

The terrains of the three counties listed earlier vary broadly and have elements that are important to the safe migration, roosting, foraging and maternity colonies for the continued health and population of the Indiana Brown Bat and multiple other species of bats.

0045-2

Among these are multiple cavernous areas, large areas of forestation and many streams and pond areas that are essential to the health of not only the Indiana Brown Bat but to other bat species here. The disruption and fragmentation of this excellent habitation and migratory environment by the construction and running of the wind turbine facility produce multiple challenges to the bat community and population.

0045-3

Much of Buckeye Wind's HCP is based on assumptions (word used frequently in the plan) and theories that have had very little true scientific testing as is the case with the planned cut in speed changes as a mitigation program.

The HCP offered by Buckeye Wind does give lip service to activities suggested in the USFW guidelines to correct some of the damages created by the project. However many of these planned actions are based primarily on assumptions (a word used frequently in the plan) and/or theories that have not yet had sound scientific testing. .

Actions that need to be reconsidered and changed include:

0045-4

1. Since disruption to habitat area is planned there needs to be plans in place to protect the off site habitats located in adjoining area during the construction and addition of power transmission lines in and around the project area. The type of structure and MV should be examined and approved by the Ohio Power Siting Board after giving environmental and wildlife assessment when a specific decision is made instead using the presumption of type described in the Buckeye Wind Plan. The training and use of search dogs would improve the quality of the searches.

0045-5

0045-6 2. The limited number of tracked Indiana Brown Bats in the project area (12) is not a sufficient number to plan a take permit of only five per year in an areas with summer population of over 2000 and a migrating population over 5000 Indiana Bats.

0045-7 The training and supervision of personnel to search for bat carcasses around wind turbines is under the control of the Buckeye Wind Project. This bears the question of the reliability of those reports. It would be more appropriate for the monitoring agents to be Ohio Department of Natural Resources of the Ohio region Fish and Wildlife offices with Buckeye Wind paying for the services of those agents. Search dogs may be a very appropriate addition to the search process

0045-8 3, The search area should be expanded to two times the number of feet of the rotor blade.

0045-9 4. When carcasses are found they should be identified by DNA sampling and evaluated for the presence of White Nose Syndrome. If the species of the carcass cannot be determined it should be counted as an Indiana Brown Bat.

0045-10 5. There should be a limit on the number of turbines in close proximity to evaluate how many bats are killed in the first two year period of operation. The addition of all other turbines should progress no more than 15 turbines per year over a five year pattern time period so that with continued monitoring of previously built sites and new sites.

0045-11 6. There should be no deforestation. Buckeye Winds plan to recreate forests appropriate for bat habitation are not methods that will recreate habitat in a time span as it would take decades to restore Indiana Bat's habitat.

0045-12 No wind turbines should be placed closer than 7 miles to known roosting, foraging and maternity colony areas.

0045-13 7.. Careful attention to and ongoing monitoring of rapid wind speed changes and rapid changes in barometric pressure as these also may change the flight patterns of bats around wind turbines.

There are other considerations that must be made by USFW in reviewing this plan and all other HCPs and ITPs

0045-14 Major reductions of bat populations from here and across the country provide major concerns above and beyond the protection of the endangered Indiana Brown Bat. Comments have been made within the governmental wildlife community that due to White Nose Syndrome other species of bats located in the area of Buckeye Wind Project may be added to the USFW species of bat considered to be species of concern or of threatened status.

0045-15 The importance of bats in agricultural industry and human health should be carefully included in the evaluation the appropriateness and success of establishment of the current HCP offer by Buckeye Wind.

The necessity to add more and/or new types of insecticides to protect the agricultural crops from the many pests that are currently controlled heavily by bats. The costs of the development, purchase, and application of these insecticides will be in the billions of dollars which in turn will add greatly to the cost of food in this country.

0045-15

The results of the increased use of chemical insecticides to the quality of air in the human living environments will impact human health increasingly over each year. In some medical reviews it is noted that asthmatics, young children and the elderly are at increased risk of respiratory problems just from the mosquito spraying done during years of high mosquito populations. Bat have done and do provide efficient and excellent control of mosquito populations. However in urbanized areas where deforestation and destruction of habitable environment has limited bat populations to the point that these types of insecticides must be applied by air spraying frequently. At least one medical study examining health in cities where insecticides are sprayed have likened to the effects on humans to second hand smoke.

0045-16

Mosquitos are the vectors that carry both West Nile Virus types to humans and animals. When people are infected with it the results and be deadly. Again it is the elderly, young children and persons with compromised immune systems most at risk of death. However since West Nile Virus is primarily infects the central nervous system, encephalitis is the primary illness that occurs. For people who do survive the infection long term disabilities of the central nervous system are usually the outcome.

According to the CDC the incidence of West Nile Virus is increasing rapidly at a frightening pace. A true danger to the health of our human population.

For these reasons and many more it is critical that we maintain excellent bat populations throughout this country to rid us of the many pests that they control for us.

It is for these reasons that we feel that current proposed ITP and HCP. presented by Buckeye wind that the U.S. Fish and Wildlife service should require that the Buckeye Wind project should only be operated as a Maximally Restricted Operations.

Submitted by:
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and

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RE: FWS-R3-ES-2012-0036 Buckeye Wind Power Project

Bat Conservation International (BCI) appreciates the opportunity to comment on the U.S. Fish and Wildlife Service's (USFWS) draft Environmental Impact Statement (EIS), draft Habitat Conservation Plan (HCP), and draft Implementing Agreement (IA) for an Incidental Take Permit for the Buckeye Wind Power Project. BCI, founded in 1982 and headquartered in Austin, Texas, is a nonprofit organization dedicated to conserving the world's bats and their ecosystems to ensure a healthy planet. We achieve our mission through research, education and direct conservation action. BCI currently employs a staff of nearly 30 biologists, educators and administrators, and is supported by approximately 30,000 members and supporters in 60 countries.

BCI supports the development of alternative energy sources, but is concerned that cumulative impacts of wind energy development on bats could become unsustainable if facilities continue to operate without careful planning to minimize harm to bats. We believe that minimizing harmful impacts to wildlife is an essential element of "green energy", and that developers of wind energy must increase efforts to improve siting, monitoring fatalities, and develop, test, and implement methods to reduce adverse impacts to bats.

DRAFT ENVIRONMENTAL IMPACT STATEMENT

Chapter 3-Proposed Action and Alternatives

0067-1

3.1.2, E-10: Please specify the manufacturer's cut-in speeds for the turbines under consideration. If some turbines will be operating at normal cut-in speeds, it is important to know at what speeds they will operate (e.g., 3.0 m/s, 3.5 m/s).

0067-2

Fall Feathering Plan, 3-12, 2nd paragraph: There is no mention of temperature being part of the proposed action in spring or summer. It is confusing as to why temperature would be incorporated in fall, when bats are most vulnerable, and not in spring or summer. If temperature is going to be part of the proposed action, it should occur in all seasons. **Temperature is not mentioned in the entire document other than this paragraph.** Using 50 °F as the determination for operational changes if fall may be too high, if the goal is to minimize the potential take of an Indiana bat. Fall is the most dangerous period for fatalities, including Indiana bats. Therefore, it may be more appropriate to lower the temperature requirement to 45 °F to reduce the risk of take.

0067-3

3.3 Alternative B, 3-20: Please specify if temperature would also be included in this alternative. If only recommending fall, it may be more appropriate to expand the period of changing operations from beginning 1 August to beginning 1 July. Is there enough confidence that 5.0 m/s is adequate, that fall is the only period of risk, and that 1-6 hours after sunset is sufficient to reduce risk of take?

0067-4 *Table 3.5-1, HCP, 3-21*: Under Alternative A, would the 3 known roosts be removed? These known locations should still be protected regardless of turbine operations.

Chapter 4-Affected Environment

0067-5 *Bats, 4-33*: These dates do not encompass the period of risk for Indiana bats. The first year is only 2 months and misses most of August, which is part of the fall migration period. The second year misses almost all of September and October. This period represents the time when Indiana bats migrate. Moreover, the Indiana bat kills that have occurred were in September.

0067-6 *Figure 4.4-4, 4-34*: These data are not comparable and should not be presented side by side. The study periods for each year were completely different.

Chapter 5-Environmental Consequences

0067-7 *Table 5.4-3, 5-38*: Good et al. 2012 is available for the 2nd year of study at the Fowler Ridge Wind Facility

0067-8 *Impacts to the Midwest Recovery Unit Population, 5-54, last paragraph*: With everything we know about the devastating impacts of WNS on bats, in general, and Indiana bats, in particular, discussing increases in the overall population and population of the Midwest Recovery Unit seems inappropriate. Please review Turner et al. 2011 A five-year assessment of mortality and geographic spread of white-nose syndrome in North American bats and a look to the future (Bat Research News) and Throgmartin et al. 2012 Population-level impact of white-nose syndrome on the endangered Indiana bat (Journal of Mammalogy).

Minor Comments

0067-9 *ES-2, Line 4*: "…interactions, and no HCP would implemented". Insert "be" between would and implemented.

0067-10 *Chapter 5-Environmental Consequences, 5-24, 4th bullet*: Include citations for data on effectiveness of raising cut-in speed to reduce bat fatality.

0067-11 *Table 5.5-2, 5-47*: What does the '*' indicate in the column 'Total Removed from Action Area Ha (ac)'?

DRAFT HABITAT CONSERVATION PLAN

Chapter 1-Overview and Purpose of HCP

0067-12 Pg 7, 1st full paragraph: Please specify if curtailed turbines will be rotating at high RPM's below cut-in speed. Recommend that all turbines should be feathered or rotating at extremely low (or "free/pin-wheeling) RPM's prior to cut-in regardless of season or category.

Chapter 2-Project Description

0067-13 *2.2.1 Rotor pg. 22*: Difference in manufacturer's cut-in speed could be a significant factor in bat fatalities (3.0 m/s vs. 3.5 m/s) if operating normally. Bats are more active at lower wind speeds, and the 0.5 m/s difference means blades will be spinning at high RPMs for a longer period of time (i.e., at lower wind conditions).

Chapter 3-Environmental Setting and Biological Resources

0067-14 *3.3.3.1 Bat Acoustic Surveys*: Neither year of study encompassed the period of greatest risk for Indiana bats completely. The first year of study is only 2 months and misses most of August, which is part of the

0067-14 fall migration period. The second year misses almost all of September and October. This period represents the time when Indiana bats migrate. Moreover, the Indiana bat kills that have occurred were in September.

Chapter 4-Covered Species: The Indiana Bat (*Myotis sodalis*)

0067-15 *4.1.1 White-nose Syndrome, pg 58*: suggest including Turner et al. 2011 A five-year assessment of mortality and geographic spread of white-nose syndrome in North American bats and a look to the future (Bat Research News) and Throgmartin et al. 2012 Population-level impact of white-nose syndrome on the endangered Indiana bat (Journal of Mammalogy) in this section.

Chapter 5-Impact Assessment

0067-16 *Table 5-4b, pg. 127*: Good et al. 2012 (2nd year of curtailment at Fowler Ridge) is available and should be incorporated into this discussion.

Chapter 6-Conservation Program

0067-17 *6.2.2 Project Operation and Maintenance, pg. 170*: To date, there is no evidence that incorporating temperature into the operational mitigation strategy is effective in reducing bat fatalities. Data on specific conditions when bats interact with turbine blades is limited. Incorporating temperature is one means of optimizing this strategy, but it should first be tested before implemented. If temperature is to be incorporated, there should be more of a buffer for when bat activity typically decreases, particularly during the period when bats appear to be most vulnerable (i.e., the fall season). Recommend using 45 °F as the cut-off during fall.

0067-18 *Table 6.2, pg. 173*: Please include temperature in the title. Incorporating temperature into the minimization strategy gets lost in this document.

0067-19 *Fall Feathering Plan, pg. 174*: Please include in the text the cut-in speed for categories 2–4.

0067-20 *6.5.2.4 Search Frequency*: Recommend daily searching for turbines in Category 1 (highest risk), particularly in fall.

We appreciate the opportunity to comment on these important documents. Please contact Dr. Cris Hein if you have any questions.

Respectfully,

Cris Hein, Ph.D., Bat Conservation International
Bats and Wind Energy Program Coordinator
chein@batcon.org
512-745-2556

Buckeye Wind Power Project, Champaign County, Ohio

Docket No. FWS-R3-ES-2012-0036

My family is vehemently opposed to the Buckeye Wind Power Project for Champaign County, Ohio.

The idea that Everpower feels that more stringent restrictions are not financially feasible is totally unacceptable. 0087-1

The estimates of cost to Champaign County farmers as $12 million annually in increased pesticide costs from the loss of bats due to wind turbines and White Nose Syndrome is, in my opinion, probably a low estimate not to mention the cost to consumers not only to their pocket book but to their overall health as a result of more use of pesticides due to loss of bat population. 0087-2 0087-3

Humans are the main cause of bat decline and extinction. These losses are from activities such as deforestation, elimination of foraging areas, roost and cave destruction, **and now wind turbines**. The double edge sword here is wind turbines will kill bats in flight while the increase in pesticide use will also poison and kill the bats who consume them. 0087-4 0087-5

Bats are exceptionally vulnerable to extinction, in part because they are the slowest reproducing mammals on earth for their size, most producing only one young annually. More than 50% of bats do not survive infancy. A female usually has only one offspring a year, so population recovery is slow. Declining populations can only be stopped through tough measures. More than 50% of American bat species are in severe decline. Scientists are baffled by a disease called White-Nosed Syndrome that is affecting cave bats in the US. So why do we humans continue to contribute to their decline; perhaps for the financial benefit of some? 0087-6 0087-7 0087-8

A single bat can eat up to 1,200 mosquitoes in a single hour. Bug zappers and insecticides put together can't match the eating power of one bat. In the last few decades bat populations have been declining at alarming rates worldwide. Bats remain the most endangered land mammal in the United States. Bats are the primary predators of night-flying insects, playing a vital role in maintaining their balance in nature. One bat eats 1/3 of its body weight and is able to catch 600 mosquitoes in one hour. Their instinct to live in colonies ensures that large numbers of bats will live or relocate to areas where there are 0087-9 0087-10

0087-10

lots of insects, keeping insect populations down. And different bat species hunt at different heights, preying on different kinds of insects. The big-sized bats eat various moths and worms that are harmful to agriculture and forestry. The small-sized bats eat mosquitoes and other double-winged insects - - carriers of diseases such as malaria and leischnamia. This is one reason to protect all species of bats.

0087-11

Common sense dictates that disrupting the God given balance of nature by man is a ridiculous endeavor. Why are we disrupting this balance with wind turbines that are not financially productive, don't always work and are costly when it comes to maintenance (which is another issue).

0087-12

Bats have been around for hundreds of years providing this balance. Wind turbines certainly will destroy this balance along with perhaps the deterioration of human life.

Why do we continue to fight nature?

0087-13

FWS-R3-ES-2012-0036-0001

0088-1 For the below reasons, I am requesting that the USFWS deny the requested incidental take permit and select the No Action alternative. In addition, the Buckeye Wind project should be required to operate under Alternative A (Maximally Restricted Operations).

0088-2 Data for the Indiana bat show that the proposed wind project is located within a significant migration route connecting a Priority 1 hibernaculum to summer roost locations.

0088-3 Impacts are likely to be substantial given that both wind turbines and these flying mammals are most operational/active at night.

0088-4 The unique life history of bats, with low reproductive rates and long generation times, necessitates careful consideration for siting of industrial wind projects since the detrimental effects of killing one sexually mature animal will outweigh any benefit from setting aside additional habitat.

0088-5 Importantly, any unidentified bats in this project area should be counted as Indiana bats, and any female Indiana bat carcass should be counted as two Indiana bat fatalities during the months from April through mid-August.

0088-6 Population recovery would take several decades and may not be possible given the concurrent problem of White Nose Syndrome (WNS) in the United States.

0088-7 As expressed in a recent article co-authored by a US Geological Survey biologist[1], the combined threats of WNS and wind turbines are causing a sudden population decline of insectivorous bats on a scale rivaled by few recorded events affecting mammals.

0088-8 Indeed, there is no justification for killing an at-risk species in the face of an emerging fatal infectious disease.

0088-9 Estimates from the resulting disruption of ecosystems put the value bats to the agricultural industry at roughly $22.9 billion/year.

0088-10 Preserving the integrity of ecosystems is in the best interest of both national and international economies.

0088-11 The actual number of bats killed by wind turbines each year is difficult to assess given the absence of continental-scale monitoring programs. Useful monitoring programs require a national approach which could be hindered by setting a precedent with the approval of the Buckeye Wind ITP and HCP. Considering the Buckeye Wind HCP, the Midwest Energy HCP and others concurrently is a fragmented approach that makes it difficult to achieve constructive public advisement. A more inclusive and far-reaching strategy would have a better chance of achieving monitoring programs that would produce meaningful results for the affected species.

Lastly, the stated mission of the USFWS is to "work with others to conserve, protect and enhance fish, wildlife and plants and their habitats for the continuing benefit of the American people". Moreover, a stated objective is to "Assist in the development and application of an environmental stewardship ethic for our society, based on ecological principles, scientific knowledge of fish and wildlife, and a sense of moral responsibility." I respectfully ask that

0088-12 science remain a guiding authority in all USFWS activities, especially with regards to establishing policies that affect species survival. Perhaps fortuitously, a 26-Sep-2012 news feature from the scientific journal *Nature* begins with "Science and politics are uneasy bedfellows. The first is built on evidence and objectivity; the second thrives on opinion and persuasion."

0088-13 Since the consultant hired by Buckeye Wind did not find any of the Indiana bats that were discovered in the Action Area, all monitoring should be performed by a third party

0088-13 under contract with the USFWS, funded by Buckeye Wind but with direct reporting to the USFWS.

Respectfully,

Aaron Sargeant, DVM, PhD

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By Electronic Filing

September 27, 2012

Ms. Megan Seymour
U.S. Fish and Wildlife Service
Ohio Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230

Re: Draft Environmental Impact Statement
Proposed HCP and ITP, Buckeye Wind Power Project, Champaign County, OH
Docket No. FWS-R3-ES-2012-0036

Dear Ms. Seymour:

On behalf of Union Neighbors United, Robert and Diane McConnell, and Julia Johnson (the "Commenters"), we submit these comments in response to the U.S. Fish and Wildlife Service's ("USFWS") Draft Environmental Impact Statement ("Draft EIS") for a proposed Habitat Conservation Plan and Incidental Take Permit for the Buckeye Wind Power Project, Champaign County, Ohio. Notice of availability of the Draft EIS was published in the Federal Register on June 29, 2012 (77 Fed. Reg. 38819).

On March 10, 2010, we submitted detailed comments on behalf of the Commenters pertaining to NEPA scoping for this proposed action. Thereafter, on June 25, 2010, we submitted comments concerning the content of the Draft EIS in response to the USFWS's Federal Register notice of May 26, 2010. To the extent those comments and associated appendices are not inconsistent with these comments, we adopt and incorporate them by reference as part of these written comments.

I. The Commenters

Union Neighbors United ("UNU") is a nonprofit corporation formed to promote the safety and well-being of the Champaign County community by addressing issues relating to the siting of industrial wind turbines, including adverse impacts on wildlife such as Indiana bats. Exhibit A at pp. 2, 5 UNU has ten trustees and officers, all of whom reside

in the area that will be affected by the project. *Id.* at p. 2. At the time of the Ohio Power Siting Board's evidentiary hearing on the first phase of the Buckeye Wind project (Case No. 08-666-EL-BGN), the property boundaries of UNU members were located within 648 to 2,656 feet of proposed turbine sites and the majority of the properties of UNU members were situated within 1/3 of a mile of at least one proposed turbine site. Exhibit B at pp. 13-14. Since that time, Champaign Wind, LLC has requested the Ohio Power Siting Board to approve the siting, construction and operation of an additional 56 turbines, some of which are within ¼ mile to ½ mile of properties of UNU members. [1]

Robert and Diane McConnell reside at 4880 E. U.S. Route 36, Urbana, Ohio. Although the McConnells are members of UNU, they are also commenting in their individual capacities. The McConnells own a home situated on a lot of approximately 50 acres, including 17 acres of woods. At the time of the Ohio Power Siting Board's evidentiary hearing on the first phase of the Buckeye Wind project, five turbines were planned to be built within a mile behind the McConnells' woods. The closest turbine would be situated about 798 feet from the McConnells' property line, and about 1,750 feet from their home. Exhibit A at pp. 10-11.

Julia Johnson resides at 4891 E. U.S. Route 36, Urbana, Ohio. Like the McConnells, she is a UNU member but is also commenting in her individual capacity. Her home sits on 28 acres of land bordered by woods to the south and west and by the trees and fairways of the Urbana Country Club golf course to the north and east. Ms. Johnson also owns an additional 184 acres of undeveloped property adjacent to her residential property to the south and east. At the time of the Ohio Power Siting Board's evidentiary hearing on the first phase of the Buckeye Wind project, one turbine was proposed to be located about 648 feet from the edge of this property. Exhibit A at pp. 11-13.

Although much of the project area is agricultural, the properties of UNU members such as the McConnells and Ms. Johnson contain and adjoin wooded tracts inhabited by wildlife. Exhibit A at pp. 10-13. Consequently, the Commenters have an important interest in preserving wildlife such as Indiana bats that may reside in or visit these areas.

0089-1

[1] The Draft EIS inaccurately represents at page 3-3 that 48 additional turbines are planned for the second phase, for a total of 100 turbines in the two phases of the project. The Ohio Power Siting Board approved 52 turbines in the project's first phase, and is considering 56 more turbines in the second phase. Consequently, the total number of turbines for which Buckeye Wind seeks authorization is 108, not 100 as stated in the Draft EIS. Although Buckeye Wind represents that it will not install more than 100 turbines in the project, it does not specify which turbines will be omitted. The lack of specificity in the proposed turbine locations creates ambiguity in the Draft EIS's discussion of facility impacts.

0089-2

II. The Proposed Action Should Be Evaluated By Means Of A Programmatic EIS.

On August 31, 2012, the USFWS published in the *Federal Register* a Notice of Intent to prepare a Midwest Wind Multi-Species Habitat Conservation Plan ("Multi-Species HCP")(attached as Exhibit C). The Multi-Species HCP will cover impacts to federally-listed endangered and threatened species, including the Indiana bat, resulting from the siting, construction, operation, maintenance, and decommissioning of new and existing wind energy facilities in Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin. The Service's intent is that the Multi-Species HCP will meet all ITP issuance criteria and will be evaluated under NEPA and Section 7 of the ESA. The Service further envisions that once the Multi-Species HCP is finally approved, no additional NEPA or Section 7 analysis will be necessary when issuing ITPs to individual wind energy companies in the eight states covered by the Multi-Species HCP. The Service is seeking comments until October 1, 2012 concerning the planning process, permitting approach, biological aspects of the interaction of wind facilities and species, and scientific data that may help inform the Multi-Species HCP or impact monitoring.

In light of the fact that the Service has recently issued Draft EIS documents for the Buckeye Wind and Beech Ridge Energy projects, *see* Exhibit D, it follows that the Multi-Species HCP is also a major federal action requiring an EIS under NEPA.

In *Kleppe v. Sierra Club,* the U.S. Supreme Court held that where several proposals for federal action "that will have cumulative or synergistic environmental impact upon a region are pending concurrently before an agency, their environmental consequences must be considered together." *Kleppe v. Sierra Club*, 427 U.S. 390, 409 (1976). Here, the proposed Multi-Species HCP and the proposed Buckeye Wind HCP and ITP would have adverse cumulative or synergistic effects on Indiana bats and other wildlife in the eight-state Midwest region. Thus, the Multi-Species HCP and the Buckeye Wind HCP/ITP are clearly-defined regional proposals that, per *Kleppe,* must be evaluated pursuant to a unified programmatic EIS.

Furthermore, the CEQ regulations specifically contemplate the consolidation of NEPA review of multiple proposals where those programs can be grouped geographically (including actions occurring in the same general location, such as watershed or region), or generically (including actions which have relevant similarities such as common timing, impacts, alternatives, methods of implementation, or subject matter). 40 C.F.R. § 1502.4(c). The Buckeye Wind HCP and the Multi-Species HCP both meet those criteria. Furthermore, the Department of Interior's Department Manual states:

0089-2

> If proposed actions are planned for the same geographic area or are otherwise closely related, environmental analysis should be integrated to ensure adequate consideration of resource use interactions, to reduce resource conflicts, to establish baseline data, to monitor and evaluate changes in such data, to adapt actions or groups of actions accordingly, and to comply with NEPA and the CEQ Regulations.

516 DM 1.5(A)(3).

An ITP may not be issued for the Applicant's project pending completion of the programmatic EIS because the environmental analysis for the former does not adequately evaluate cumulative and synergistic environmental impacts of reasonably foreseeable wind development across the region. 40 C.F.R. § 1508.27(b)(7)(action has "significant" environmental impacts where related to other actions with cumulatively significant impacts); *Id.* § 1508.7 ("cumulative impact" is the impact on the environment which results from the proposed action and other reasonably foreseeable future actions regardless of what agency or person undertakes them); *Texas Comm. on Nat'l Res. v. Van Winkle*, 197 F. Supp.2d 586, 617 (N.D. Texas 2002). The Draft EIS only considers cumulative wind energy impacts within Michigan, Ohio, Indiana, Kentucky, Tennessee, and Alabama, while the Multi-Species HCP will consider impacts within Illinois, Iowa, and Missouri as well. Furthermore, the discussion of cumulative impacts in the Buckeye Wind Draft EIS significantly underestimates anticipated future wind development within the geographic area that it does consider. For example, although the Draft EIS projects a total 4,104 MW of wind generating capacity in Ohio in the next three years, data from the regional grid operator PJM indicates that there is currently 5,255 MW of wind generating capacity either installed or planned in Ohio. Exhibit F.

0089-3

Thus, federal law requires consideration of both the Buckeye Wind HCP/ITP and the Multi-Species HCP in a single programmatic EIS in order adequately to consider the cumulative environmental impacts on the Midwest region. As a practical matter, it is not possible adequately to evaluate those impacts in the Buckeye Wind NEPA review until scoping is completed for the Multi-Species HCP and the range of feasible alternatives for that action is identified. A programmatic EIS will provide a more fully-developed evaluation of all relevant environmental impacts and thus will provide a more thorough and integrated foundation for decisionmaking regarding the Buckeye Wind HCP.

III. Given the Potential Significance of the Action Area to Indiana Bats, More Needs To Be Known About the Population and Behavior of Indiana Bats in the Action Area.

0089-5

A. The proposed location of the Buckeye Wind facility is inappropriate because it poses a significant and unacceptable risk of death or injury to Indiana bats.

Although the Service's 2003 interim wind turbine siting guidelines recommended that wind developers "avoid placing turbines near known bat hibernation, breeding, and maternity/nursing colonies, in migration corridors, or in flight paths between colonies and feeding areas,"[2] the Applicant chose prime Indiana bat habitat for its proposed project site. The Action Area is located within one of the heaviest migration routes from a Priority 1 Indiana bat hibernaculum to summer roost locations. Draft EIS at pp, 4-47, Figure 4.5-3. Contrary to the Draft EIS, which states that Indiana bats may merely "occasionally travel or roost throughout the Action Area" during spring and fall migration, *id.* at p. 4-48, the Draft HCP estimates that up to 5,800 Indiana bats migrate through the Action Area each year. Stantec Consulting Services, *Draft Buckeye Wind Habitat Conservation Plan* at p. 6 (June 2012) ("Draft HCP"). The Draft HCP further estimates the summer population of Indiana bats in the Action Area to be up to 2,271 bats.

At least two maternity colonies are known to exist in the Action Area. Draft EIS at p. 5-55. One of the maternity colonies is located within 1.75 miles of at least one turbine proposed for Buckeye Wind Phase I. Testimony of Cara Meinke at p. 653 (Exhibit 12). We do not know the separation distance for the other known maternity colony. One Indiana bat non-maternity roost is 1.2 miles from a turbine. Meinke Testimony, p. 653. Yet Stantec, Buckeye Wind's consultant for its Indiana bat survey, found none of the Indiana bat maternity colonies or roosts, or even any of the bats themselves, in Stantec's survey. Another consultant for another wind developer found these bats while evaluating

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0089-4

[2] USFWS, *Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines* at p. 3 (May 13, 2003) ("Interim Guidelines"). The Service issued final Land-Based Wind Energy Guidelines on March 23, 2012. Exhibit 10. However, the Draft EIS states that the Interim Guidelines, not the 2012 Land-Based Wind Energy Guidelines, served as the "operative guidance document" during planning of the Buckeye Wind project. Draft EIS at p. 5-24, fn. 2. The Service should require the Applicant to comply with the Buckeye Wind 2012 Land-Based Wind Energy Guidelines. However, the recommendations of the Interim Guidelines are nonetheless relevant in evaluating the appropriateness of the Applicant's siting choice.

0089-5

another potential project. Buckeye Wind has not even bothered to do an Indiana bat survey for the second phase of its project.

Moreover, because maternity colonies are difficult to locate, the Service estimates that only a fraction of Indiana bat maternity colonies have been documented. Draft HCP at 61. The USFWS has found that agricultural land with fragmented forests and low-to-moderate forest cover is the type of habitat in which most Indiana bat maternity colonies have been discovered. *See* USFWS, *Indiana Bat Draft Recovery Plan* (April 2007) ("Recovery Plan") at pp. 67-68. The Action Area is dominated by agricultural land uses with fragmented forests and low-to-moderate forest cover. In fact, Stantec's biologist in charge of the bat survey testified to the Ohio Power Siting Board that the project area for phase one alone contains 16.3 square kilometers of Indiana bat habitat. Meinke Testimony, p. 642. Therefore, it is likely that more maternity colonies are located within the Action Area.

0089-6

B. <u>More reliable and longer-term data is needed in order to develop valid estimates of the presence and risk of the Indiana bat in the Action Area and the risk of harm to the Indiana bat from the Buckeye Wind project.</u>

The analysis of bat populations in the Draft EIS is based largely on two studies by Stantec from 2007 and 2008. However, the results of those two surveys do not provide reliable estimates of the degree of Indiana bat presence in the Action Area. In the acoustic survey conducted by Stantec in the fall of 2007, nearly half (48%) of the bat calls detected were categorized as "unknown." Draft EIS Table 4.4-4. In the 2008 acoustic survey by Stantec, 32% of the detected calls were "unknown." Three percent of the calls detected in the 2008 acoustic survey were identified as Myotis species. *Id.* However, the 2008 acoustic survey report concluded that the majority of the numerous unidentified HFUN calls (high frequency calls – see pp. 8-9 of the report) were from Myotis species, because the calls were detected under the tree canopy level where Myotis species are more frequently found. Stantec, *Spring, Summer, & Fall 2008 Bird and Bat Survey Report for the Buckeye Wind Power Project* at p. 23 (February 2009) ("2008 Bat Report"). Thus, the 2008 Bat Report concludes, "the *Myotis* species are likely more common in the Project area than the 3% detection rate of the MYSP guild suggests."

In mist netting performed in 2008, Stantec identified two reproductive (lactating) adult female Indana bats and one non-reproductive adult male Indiana bat. These bats were found in Logan County, to the north of the Action Area. The Indiana bat captures from

0089-6

the 2008 Stantec mist netting survey constituted 1% of all bats captured in that study. However, during a 2009 mist netting survey, a consultant for a competing wind developer captured five Indiana bats study in the Action Area itself, including four lactating females. Draft EIS at p. 4-32; Draft HCP at p. 52. These Indiana bat captures constituted a full 10% of the total captures from that study.

Based on data from only 12 of 27 Indiana bats captured in a three-county area (including the Action Area) during 2008 and 2009, Stantec calculated that the estimated mean summer (non-migratory) Indiana bat population in the Action Area was 415.7 bats ± 461.2 bats, or a range from 10.1 to 2,271.4 Indiana bats. Draft HCP at 68; Stantec, *Indiana Bat Collision Risk Model* at p. 11 (Draft, December 2010). Based apparently on that estimated range, the Draft EIS estimates the summer Indiana bat population to be 435.5 bats. Draft EIS at p. 5-55. That figure is highly unreliable, however, given that the deviation is greater than the mean itself. The unreliability of the population estimate is then compounded by Stantec's utilization of the same limited data set to predict impacts of the Buckeye Wind facility on Indiana bats using inherently unreliable habitat suitability and collision risk models. *See* p. 9, below.

The Service's 2012 Land-Based Wind Energy Guidelines point out the risks posed by using inadequate data to evaluate and model wildlife presence, use, and risk:

> Where pre-construction assessments are warranted to help assess risk to wildlife, the studies should be of sufficient duration and intensity to ensure adequate data are collected to accurately characterize wildlife presence and use in the area. In ecological systems, resource quality and quantity can fluctuate rapidly. . . . Pre-construction monitoring and assessment of proposed wind energy sites are "snapshots in time," showing occurrence or no occurrence of a species or habitat at the specific time surveyed. Often, due to prohibitive costs, assessments and surveys are conducted for very low percentages (e.g., less than 5 percent) of the available sample time in a given year; however, these data are used to support risk analyses over the projected life of a project (e.g., 30 years of operations.)
>
> To establish a trend in site use and conditions that incorporates annual and seasonal variation in meteorological conditions, biological factors, and other variables, pre-construction studies may need to occur over multiple years.

0089-6

Land-Based Wind Energy Guidelines at p. 25 (Exhibit 10).

Although the Draft EIS considers three bat surveys performed in and around the Action Area, none covered the entire annual period during which Indiana bats are believed to be present (April 1-October 31). The 2008 Stantec acoustic survey collected data from March 29-September 3. However, that study is flawed for several reasons:

- It is likely that the AnaBat detector at the location known as the "South Tree," where a large portion of Myotis and HFUN calls were detected, malfunctioned in early June of 2008. 2008 Bat Report at pp. 18-19. The data for the South Tree site shows a dramatic dropoff of bat detections after May, while the data for the North Tree site (outside the Action Area) shows an exponential increase in detections over the same period. *Id.* Figure 2-9b. Stantec states that the drop in detections at the South Tree "is not consistent with what would be expected, given typical bat activity associated with summer breeding and foraging activities." *Id.* at p. 18. According to Stantec, "The sharp drop in detection rates after June 1 is difficult to explain," leading to the conclusion that a malfunction may have been "responsible for this unexpected trend, rather than a real biological phenomenon." *Id.* Because the South Tree site detected the greatest number of bats before June, the apparent detector malfunction significantly skewed the results of the study.

- The 2008 Bat Study gathered acoustic data from only two locations approximately ten miles apart. However, the north location was ultimately excluded from the proposed project area. Thus, the 2008 Bat Study ultimately collected data from only one location within the 80,051 acre (324 square kilometer) Action Area. The Land-Based Wind Energy Guidelines recommends placing acoustic detectors every two kilometers across the site where turbines are expected to be sited. Land-Based Wind Energy Guidelines at p. 31. The Applicant's survey falls well short of the Service's requirements.

- As described in Section III. A. above, the Applicant's mist netting survey missed all of the Indiana bats in the project area. The Applicant's survey failed to find even the Indiana bats located close to Buckeye Wind's turbine sites by another developer's consultant. Obviously, Buckeye Wind's mist net survey was deficient.

In conclusion, given the undisputed existence of the Indiana bat in the Action Area as documented by on-site surveys and academic literature, more reliable and longer-term

0089-6

data is needed in order to develop valid estimates of the presence and risk of the Indiana bat in the Action Area and the risk of harm to the Indiana bat from the Buckeye Wind project. For reasons discussed below, the Commenters submit that the Service should not issue an ITP for this project. Before entertaining the issuance of an ITP, however, the Service should first require the Applicant to perform a meaningful Indiana bat study that provides enough data to accurately evaluate the project's risks to the Indiana bat.

IV. The Assumptions Underlying The Applicant's Preferred Alternative and Minimally Restrictive Operations Alternative Are Invalid And Unsupported By Reliable Data.

0089-7

The Applicant's Preferred Alternative and Minimally Restrictive Operations Alternative rely on a complex and interdependent chain of statistical analyses. First, as discussed above, the Applicant attempts to extrapolate an Action Area population figure based on data from twelve Indiana bats, resulting in a meaningless seasonal population range of between 10.1 to 2,271.4 Indiana bats. Using that data, the Applicant then uses habitat suitability and collision risk models in an attempt to predict the degree of risk to Indiana bats in various portions of the Action Area and at various times of year. Finally, based on those models, the Applicant proposes an elaborate scheme for operating its various turbines at differing cut-in speeds depending on their locations and the season of operation.

In contrast, on August 1, 2012, the USFWS issued a Draft EIS for the proposed Beech Ridge Energy HCP and ITP. Exhibit D. Beech Ridge Energy proposes to construct and operate up to 100 wind turbines at a single site in West Virginia. Although there have been no documented captures of Indiana bats within the footprint of the Beech Ridge project, acoustic data indicates that the Indiana bat is found within the project area. *Id.* at pp. 116, 120. However, the Beech Ridge Draft EIS does not attempt to calculate the Indiana bat population within the project area, nor does it include the type of elaborate risk modeling attempted by the Applicant. In fact, the USFWS pointedly states in the Beech Ridge Draft EIS:

> There are currently no predictive models available to quantify expected bat collision mortality as a result of wind energy facility operation. Risk assessments must be based on pre-construction indices and indicators of risk (e.g., acoustic surveys), along with empirical mortality data from operating facilities. However, predicting bat mortality rates at wind

0089-7

projects using only pre-construction bat detection rates is considered unreliable.

Beech Ridge Draft EIS at p. 228 (emphasis added). In the absence of predictive modeling of the sort espoused by the Applicant, the Beech Ridge Draft EIS does not include any alternatives that consider variable cut-in speeds dependent on season and turbine location.

In light of the Service's unequivocal assessment that there are no reliable predictive models for collision mortality, the foundation for the Applicant's Preferred Alternative and Minimally Restricted Operations Alternative is presumptively invalid and these alternatives should be rejected. As discussed above, both the Habitat Suitability Model and the Collision Risk Model are based on a highly unreliable mean population estimate. The assumptions built into both models serve only to compound the high level of uncertainty already inherent in the population estimate. Furthermore:

- Indiana bats are assumed to exist throughout the Action Area and are known to migrate through the Action Area. For example, an Indiana bat was captured in the middle of the Buckeye Wind Action Area and subsequently tracked 6.3 miles to a roost tree, Draft HCP at p. 66, which is contrary to the Habitat Suitability Model's assumption that Indiana bats stay relatively close to forest edges. Habitat Suitability Model at pp. 16-17. Other studies summarized in the USFWS Indiana Bat Recovery Plan tracked Indiana bats for travel distances up to 5.2 miles, including flights across open fields and highways, to forage for food. See pp. 50, 66, and 69. Furthermore, the three documented Indiana bat fatalities at the Fowler Ridge and North Allegheny were likely migrant bats.[3] Draft EIS at p. 5-51. Therefore, there is no basis for distinction between "high risk" and "low risk" habitat areas as proposed in the Habitat Suitability Model.

- Although the Collision Risk Model is based on assumptions about the flight height of Indiana bats, Stantec admits that the reliability of data on Indiana bat flight height is uncertain because acoustic studies may not detect bats flying in the rotor swept zone and because radio telemetry data does not record flight height.

[3] Since the issuance of the Draft EIS, the USFWS announced that an Indiana bat was found dead at the 61-turbine Laurel Mountain Wind Power facility near Elkins, West Virginia on July 26, 2012. Exhibit 8. At this time there is no public information available to determine whether that bat was killed while migrating. However, that fatality occurred in July, before the "high risk" period predicted in the Applicant's Collision Risk Model.

0089-7

Collision Risk Model at p. 28. Stantec concedes that the flight height of migrating bats is not known, *id.* at p. 30, yet the Collision Risk Model assigns percentages of flight heights inside and outside the rotor swept zone. *Id.* at p. 31.

- The Collision Risk Model distributes the Phase II (Champaign Wind) turbines randomly rather than evaluating the actual locations of those turbines as proposed by Champaign Wind in its 2012 Application to the Ohio Power Siting Board. Exhibit 7. At the time the Draft EIS was issued, the Applicant and its parent company, EverPower Renewables, were aware of the areas leased for turbines for the Champaign Wind project and the preferred siting locations for those turbines. That information should be fully incorporated into the studies supporting Buckeye Wind's application.

For all of the above reasons, the Preferred Alternative and Minimally Restricted Alternative are not support by reliable scientific evidence and should be rejected. The Service should prohibit take of endangered species from the Buckeye Wind project. As discussed in the Draft EIS's Maximally Restrictive Operations Alternative, take can be avoided by shutting the turbines down at night during the months when Indiana bats are present in the Action Area.

0089-8

V. The Alleged Benefits Of Off-Site Habitat Conservation Are Speculative As Proposed In The Draft EIS.

The Applicant suggests that preserving habitat in the vicinity of an Indiana bat hibernaculum in Ohio would result in a "net conservation benefit" for the Indiana bat. Draft HCP at p. 31. However, neither the Draft EIS nor the Draft HCP demonstrates that acquiring off-site habitat will completely offset mortalities from operation of the Buckeye Wind facility. The Applicant does not propose to conserve specific areas of Indiana bat habitat, but simply commits to conserve or restore an unspecified 200.9 acres in the future. Thus, there is no showing that the acreage that Buckeye Wind may conserve or restore will be suitable for the Indiana bat or that such acreage is in any way threatened or in need of conservation or restoration. If habitat conservation is to be approved as a mitigation measure, the Service should require the Applicant to identify the specific lands that will be protected and restored and the specific benefits to the Indiana bat species from protecting or restoring those lands, and should further require Buckeye Wind to actually acquire or protect that acreage before approving an ITP.

0089-8

The Applicant's habitat mitigation proposal is scaled to "replace" precisely the exact number of Indiana bats that it proposes to kill over the operational life of its facility. Draft HCP at p. 180. Species benefits cannot be predicted to that degree of mathematical precision. Therefore, if the Service determines that habitat conservation or restoration is an acceptable form of mitigation, the Service should require mitigation at a conservative ratio that more than compensates for the mortality authorized under any ITP.

0089-9

VI. The Applicant Has Not Demonstrated That Either The Preferred Alternative Or The Minimally Restrictive Operations Alternative Will Minimize And Mitigate Take Of Endangered Species To The Maximum Extent Practicable.

The Draft EIS contains several statements to the effect that the Maximally Restricted Operations Alternative is not economically feasible. *E.g.,* Draft EIS at pp. 5-173, 5-190. However, there is nothing in the Draft EIS or Applicant's Draft HCP that supports such a conclusion. To the contrary, the Applicant merely claims that it will cost more to implement the Maximally Restricted Operations Alternative (or, presumably, other alternatives involving greater degrees of protection than the Preferred Alternative). The HCP states that the Maximally Restricted Operations Alternative will result in a 22.7% reduction in energy generation over the life of the project, resulting in total lost annual revenues of $8.65M. However, using the same financial information, the project will earn an estimated $30M/year under the same assumptions. Neither the Draft EIS nor the Draft HCP contain any evidence indicating that earnings at that level are financially infeasible.[4]

Section 10 of the Endangered Species Act's requires that an ITP minimize and mitigate take of endangered species to the maximum degree practicable. ESA § 10(a)(2)(B), 16 U.S.C. § 1539(a)(2)(B). The Service's Habitat Conservation Plan Handbook discusses this issuance criterion as follows:

> The applicant decides during the HCP development phase what measures to include in the HCP (though, obviously, the applicant does so in light of discussions with and recommendations from FWS or NMFS). However, the Services ultimately decide, at the conclusion of the permit application

[4] The "No Action" alternative in the Beech Ridge Draft EIS is substantially similar to the Maximally Restrictive Operations Alternative in the Buckeye Wind Draft EIS. However, there is no claim in the Beech Ridge Draft EIS that turning off the turbines at night is economically infeasible.

0089-9

> processing phase, whether the mitigation program proposed by the applicant has satisfied this statutory issuance criterion. This finding typically requires consideration of two factors: adequacy of the minimization and mitigation program, and whether it is the maximum that can be practically implemented by the applicant. To the extent maximum that the minimization and mitigation program can be demonstrated to provide substantial benefits to the species, less emphasis can be placed on the second factor. However, particularly where the adequacy of the mitigation is a close call, the record must contain some basis to conclude that the proposed program is the maximum that can be reasonably required by that applicant. This may require weighing the costs of implementing additional mitigation, benefits and costs of implementing additional mitigation, the amount of mitigation provided by other applicants in similar situations, and the abilities of that particular applicant.

USFWS, Habitat Conservation Plan Handbook at p. 7-3 (Exhibit 13). As discussed above (at p. 11), there is no showing in the Draft EIS or Draft HCP that the proposed mitigation (i.e., off-site habitat conservation) will result in "substantial benefits" to the Indiana bat as a species. The Applicant's off-site mitigation plan, while speculative, has been scaled merely to replace the same 130 Indiana bats for which Buckeye Wind seeks authorization to kill over the life of its project. Draft HCP at p. 180. Such a proposal is hardly a "substantial benefit" to the species. Therefore, without an actual showing that the Maximally Restrictive Operations Alternative is economically infeasible, the Applicant cannot meet the ITP issuance criteria for either its Preferred Alternative or the Minimally Restricted Operations Alternative. *See Nat'l Wildlife Fed'n v. Babbitt*, 128 F. Supp.2d 1274, 1286 (E.D. Cal. 2000).

0089-11

VII. There Is Insufficient Evidence That Increased Cut-In Speeds And Blade Feathering Will Reduce Annual Wildlife Impacts.

The crux of the Preferred Alternative and the Minimally Restrictive Operations Alternative is that increased cut-in speeds will reduce wildlife mortality because the turbines will operate fewer hours at higher cut-in speeds. The Draft EIS goes so far as to calculate estimated annual take of Indiana bats taking into account the effects of such increased cut-in speeds. However, there is no certainty that increased cut-in speeds will yield the predicted results, since the effect of increased cut-in speeds may be nullified in

0089-11

years with abnormally high winds. Furthermore, the public record is devoid of any project-specific meteorological data that would corroborate the claimed reduction in turbine operation resulting from implementing the proposed cut-in speeds in the Action Area. Finally, studies indicate that migratory tree bats may be attracted to both moving and non-moving blades, and that many bat kills occur during low-wind nights. Draft EIS at p. 5-37. In fact, the Draft HCP mentions a study which found that blade rotational speed was a significant negative predictor of observed collisions and/or barotrauma with turbine blades, suggesting that bats may be at higher risk of fatality on nights with low wind speeds. Draft HCP at p. 170. For all of these reasons, there is inadequate support for the Applicant's assertion that the specific proposed cut-in speeds will result in the predicted reductions in bat mortality at the Buckeye Wind project.

0089-10

VIII. The Draft EIS Fails To Consider Reasonable Alternatives Previously Identified By The Service And Commenters.

The Draft EIS does not evaluate the following reasonable alternative minimization measures that have been identified either by the Service or by commenters in this matter.

In 2008, the Service identified the following minimization measures in recommendations to Babcock & Brown in connection with that entity's contemplated wind energy development in Logan County, Ohio:

1. A cut-in speed of 7 m/s, without adjustment for season or habitat classification;
2. Construction and operation of the facility in phases, i.e., construct and operate 1/5 of total planned turbines with post-construction mortality surveys conducted at all turbines for 2 years before more turbines may be constructed;
3. Ban on forest clearing to protect Indiana bat habitat and roost trees; and
4. Siting of turbines to avoid shadow flicker on known Indiana Bat maternity colony locations.

Exhibit 9. These recommendations are equally appropriate for the Buckeye Wind project and are reasonable alternative that must be considered in the Service's NEPA review.

0089-12

In the Beech Ridge Energy Draft EIS, the Service included as an alternative a cut-in speed of up to 6.7 m/s without adjustment for factors such as season or turbine location. In addition, the Service included an alternative for a reduced number of turbines in the Beech Ridge Draft EIS, but rejected a similar alternative in the Buckeye Wind Draft EIS.

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Given that the Service considered these alternatives in detail in the Beech Ridge Draft EIS, they are reasonable alternatives for consideration in the Buckeye Wind EIS as well.

In our earlier comments in this matter dated March 10, 2010 and June 25, 2010, we emphasized the need for appropriate turbine siting setbacks based on known travel behavior of Indiana bats. Specifically, we proposed setbacks of five miles from known capture-roost sites, ten miles from hibernacula, and appropriate distances from riparian corridors as determined based on available data. We urge the Service to carefully consider our prior recommendations on setbacks and to incorporate these setbacks into the Service's restrictions on the project.

0089-13

IX. In Light Of The Imminent Threat Of White-Nose Syndrome To Indiana Bats In The Midwest Recovery Unit, The Applicant Has Failed To Demonstrate That Its Authorized Take Proposal Will Not Threaten Recovery Or Survival Of The Species.

Any applicant for an ITP must demonstrate, as a condition of permit issuance, that the proposed taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild. 50 C.F.R. § 17.22(b)(2)(i)(D). According to the USFWS Habitat Conservation Plan Handbook, this is a "critically important criterion for incidental take permits because it establishes a fundamental 'threshold' standard for any listed species affected by an HCP." USFWS, *Habitat Conservation Plan Handbook* at p. 7-4.

In *Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 527 (9th Cir. 2010), the Ninth Circuit held that the USFWS must identify when a species will likely pass the tipping point for recovery, and determine whether the proposed action will cause the species to reach that tipping point. There is nothing in the Draft EIS, however, that addresses that critical issue as it relates to the recovery of the Indiana bat.

The Commenters acknowledge that the Service intends to address the issue of recovery and survival of the Indiana bat in a separate Biological Opinion. However, the Commenters wish to point out that the Applicant's entire treatment of this issue in its Draft HCP is based on the invalid assumption that White Nose Syndrome (WNS) will result in the inevitable extirpation of Indiana bats in the Midwest Recovery Unit. Draft HCP at p. 140. The Applicant's consultant then reasons that since it is inevitable that the Indiana bat will be eliminated in the Midwest Recovery Unit, mortality from the Buckeye Wind project is inconsequential. *Id.* However, while the 73% reduction in cave bat species from WNS is a very serious threat to the survival and recovery of the Indiana bat, Draft HCP at p. 139, the data trends to date do not establish that extirpation of the species

0089-13

is inevitable. To the contrary, the possibility of saving the Indiana bat from extinction will depend on the protection of every individual member of the species.

The Midwest RU is by far the most populous of the Indiana bat Recovery Units designated by the USFWS. Draft EIS at p. 4-43. Thus, preservation and recovery of the Indiana bat depends on effective protection in the Midwest RU.

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Given the threats posed by WNS, the Service should not authorize any take of Indiana bats from the Buckeye Wind project. If the Service does authorize take of Indiana bats, however, the authorized take figure should be set at a level that presumes losses from WNS similar to those seen in other RUs. The Service should not permit an after-the-fact adjustment of the authorized take figure as proposed by the Applicant.

0089-15

X. If The Service Issues An ITP, The Service Should Consider The Suitability Of The Take Limit Methodology Proposed In The Beech Ridge Draft EIS.

The Applicant proposes an authorized annual take of 5.2 Indiana bats per year and 26 Indiana bats per five-year period. Draft EIS at p. 5-55. As discussed above, the Applicant generated these take estimates based on elaborate modeling that relies on inadequate data and unsupported assumptions concerning seasonal populations and behavior in the Action Area.

Beech Ridge Energy, on the other hand, proposes an annual authorized take of 2.5 Indiana Bats/year based on alternative cut-in speeds of 3.5-4.8 m/s[5] implemented from July 15 through October 15. This proposed authorized take figure is based not on statistical modeling, but on actual data on bat mortality at similar operating wind energy facilities. The Service should consider whether Beech Ridge's proposal to use the Little Brown bat as a surrogate for the Indiana bat is an appropriate basis for calculating and monitoring take of Indiana bats in connection with the Buckeye Wind project.

0089-16

XI. The Proposed Mortality Monitoring Fails To Consider Reasonable Alternatives Previously Identified By The Service.

In the event the Service issues an ITP for the Buckeye Wind project, the mortality monitoring program should include the following elements required in the USFWS Draft Recommendations to Babcock & Brown (Exhibit 9):

[5] These cut-in speeds are proposed in separate Alternatives in the Beech Ridge Draft EIS. Given the absence of predictive impact modeling in the Beech Ridge Draft EIS, that document does not propose an alternative with seasonally- or geographically-variable cut-in speeds as does the Buckeye Wind Draft EIS.

- Searchers should utilize trained dogs for the searches;
- Area under the turbines should be kept mowed;
- If a carcass cannot be identified, DNA analysis is required to identify the species;
- Unidentified bats must be counted as Indiana bats;
- From April 1 through August 15, any female Indiana bat carcass must be counted as two Indiana bat fatalities;

0089-16

In addition, because the Applicant's consultant did not find any of the Indiana bats that were discovered in the Action Area, all monitoring should be performed by a third party under contract with the FWS, but funded by the Applicant.

XII. The Applicant Is Not Entitled To A Thirty-Year ITP Term When Its Project Has A Planned Operational Life Of 25 Years.

0089-17

The Draft HCP states that the proposed take limits are for the 25-year period during which the turbines are operational. Draft HCP at p. 127. However, the Applicant has applied for a 30-year ITP. The Applicant justifies the additional five-year term by speculating that the ITP authorization would apply "in the unlikely event that take did occur" during construction, decommissioning, and mitigation activities. *Id.* At the same time, however, the Applicant states that no take is expected as a result of such activities, and the Draft HCP contains no data to quantify the amount of such take or the likelihood thereof. Therefore, the Applicant has not met the issuance criteria for ITP authorization pertaining to construction, decommissioning, and mitigation activities.

A 30-year ITP term will have no other purpose than to skew the proposed five-year authorized take calculations at the beginning and end of the permit term. In other words, if no Indiana bats are killed during Year 1 of the ITP because the facility is constructed during that year, the Applicant would have a free pass to kill a greater number of Indiana bats during Years 2-5. Such a result is not warranted, especially because the Applicant's anticipated take figures are unjustifiably high to begin with.

0089-17

Although the Commenters submit that an ITP should not be issued to the Applicant even for operation of its turbines, if the Service determines that an ITP is appropriate, the term of such permit should be limited to the period of operation of the turbines and no longer.[6]

Conclusion

The Service's 2003 interim wind turbine siting guidelines recommended that wind developers avoid placing turbines near known bat hibernation, breeding, and maternity/nursing colonies, in migration corridors, or in flight paths between colonies and feeding areas. Despite that prudent guidance, Applicant has chosen prime Indiana bat habitat for its proposed project site. In a similar situation, the Service advised Babcock & Wilcox that its proposed location in Logan County, Ohio was "inappropriate for siting of a wind energy project." Exhibit 9 at p. 3. The same message clearly applies to Buckeye Wind.

While the Service cannot prohibit the construction of Buckeye Wind's project, it can enjoin any activities that result in take of endangered species. In light of the extensive use of the Action Area by the Indiana bat for breeding, roosting, maternity, and migration, the Service should deny Buckeye Wind's application for an ITP and prohibit the operation of any of its turbines at night during periods when the Indiana bat is present in the Action Area.

If, however, the Service does not deny the application, the Service should require the Applicant to supplement its application with meaningful Indiana bat monitoring data collected in a survey that complies with the Service's normal protocol for Indiana bat surveys.

In the event the Service decides to issue an ITP to the Applicant, the Service should incorporate all of the protective measures specified in the Service's 2008 recommendations to Babcock and Brown, the setbacks recommended in our previous comments in this matter, and the additional mitigation and monitoring requirements recommended in these comments.

Thank you for the opportunity to comment on this important matter. If you have questions about any of the information in this letter, please contact me at (937) 226-9000.

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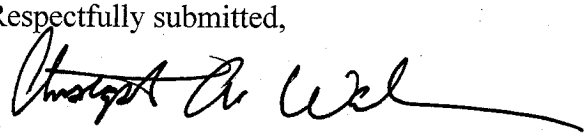
[6] Coincidentally, the proposed term for the Beech Ridge Energy ITP is limited to the period of operation of the turbines at that facility, i.e., 25 years.

Furthermore, please notify me of future developments in the Service's review of this matter, including the issuance of any Biological Opinion, Final EIS, or ITP.

Respectfully submitted,



Christopher A. Walker

cc: Julia F. Johnson
Robert and Diane McConnell
Jack A. Van Kley

List of Exhibits:

1. Testimony of Julia F. Johnson in *Matter of Buckeye Wind, LLC*, OPSB Case No. 08-666-EL-BGN.
2. Testimony of Sandra McKew in *Matter of Buckeye Wind, LLC*, OPSB Case No. 08-666-EL-BGN.
3. USFWS, Notice of Intent to Prepare Midwest Multi-Species HCP (77 Fed. Reg. 52754 (Aug. 30, 2012)); U.S. FWS, *Questions and Answers, Midwest Multi-Species HCP in Eight States* (Aug. 30, 2012).
4. USFWS, Draft Environmental Impact Statement and Habitat Conservation Plan, Beech Ridge Energy (Aug. 24, 2012).
5. Beech Ridge Energy Draft Habitat Conservation Plan (May 2012).
6. PJM Queue Data compiled from http://www.pjm.com/planning/generation-interconnection/generation-queue-active.aspx.
7. Turbine siting map, Figure 05-1 from Application for Certificate of Environmental Compatibility and Public Need, Buckeye II Wind Farm, Ohio Power Siting Board Case No. 12-0160-EL-BGN (May 2012).
8. USFWS press release, *Indiana Bat Fatality at West Virginia Wind Facility* (http://www.fws.gov/westvirginiafieldoffice/ibatfatality.html).
9. Letter from Mary Knapp, USFWS, to Ken Gray, Babcock & Brown (Sept. 26, 2008) with attached recommendations.
10. USFWS, *Land-Based Wind Energy Guidelines* (March 23, 2012).
11. USFWS, *Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines* (May 13, 2003).
12. Testimony of Cara Meinke, Stantec Consulting, in *Matter of Buckeye Wind, LLC*, OPSB Case No. 08-666-EL-BGN.
13. USFWS, *Habitat Conservation Plan Handbook*, Chapter 7.

Ohio Department of Natural Resources

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September 25, 2012

To Whom It May Concern:

The Ohio Department of Natural Resources, Division of Wildlife (ODNR DOW) has reviewed the draft Habitat Conservation Plan (HCP; dated June 2012) developed by Stantec Consulting Services, Inc. for Buckeye Wind LLC (owned subsidiary of EverPower Wind Holdings, Inc.), and supporting materials (e.g., draft Environmental Impact Statement [EIS] and draft Avian and Bat Protection Plan [ABPP]). Buckeye Wind LLC, has prepared this draft HCP as part of their application to the U.S. Fish and Wildlife Service (USFWS) for a federal Incidental Take Permit (ITP) under section 10(a)(1)(B) of the Endangered Species Act of 1973. If issued, the federal take permit will allow for the take of the endangered (federally and state endangered) Indiana bat (*Myotis sodalis*) at the proposed 100 turbine wind facility in Champaign County.

In 2008, with the passage of Senate Bill 221, Ohio became the 27th state to adopt a Renewable Portfolio Standard. Also in 2008, Ohio House Bill 562 gave regulatory authority to the Ohio Power Siting Board (OPSB) for any proposed electrical generating facility with the cumulative generating capacity of ≥5 megawatts. In addition to being 1 of the 7 voting members of the OPSB, the ODNR provides recommendations to the OPSB regarding the potential impacts a proposed facility may have on the wildlife resources, and has established standardized pre- and post-construction monitoring protocols for wind facilities in Ohio.

The ODNR DOW supports and encourages renewable energy development in Ohio. The ODNR DOW also recognizes the importance and need for conservation of bats, especially now with the cumulative effects of habitat loss, the unprecedented mortality caused by white-nose syndrome, as well as the potential impacts wind facilities may have on Ohio bat populations. With that said, the ODNR DOW strives for a balance between renewable energy development and environmentally responsible siting of wind facilities, as well as, the use of management practices that minimize the potential impacts to wildlife resources.

0090-1 Throughout the development of this draft HCP and relevant documents, the ODNR DOW has provided comments to the contents and approach; many have been addressed by Buckeye Wind LLC and are relevant. The ODNR DOW appreciates the efforts made by Buckeye Wind LLC to consult with the state wildlife agency.

0090-2 Additionally, ODNR DOW recognizes the potential reductions in overall bat mortality with Buckeye Wind LLC's proposed operational adjustments detailed in the draft HCP.

0090-3 Furthermore, ODNR DOW commends the efforts made by the USFWS Columbus Field Office, to include the

0090-3 concerns of the state, and to seek the balance between energy development and conservation of a species.

0090-4 ODNR DOW appreciates Buckeye Wind LLC incorporating an ODNR DOW approved post-construction monitoring protocol for the first 2 years of operation and including a sample of turbines that are searched every day (as noted specifically in the draft ABPP). The ODNR DOW goals for post-construction monitoring include documenting the species diversity being impacted, relative numbers of birds and bats being killed, the impact of weather events on mortality, and any influence of habitat features within non-homogeneous landscapes may have on mortality patterns. Factors such as the spatial distribution of mortality will guide future monitoring and our efforts to assess likely impacts within Ohio. Results from post-construction monitoring will allow us to evaluate if wind energy facility operations are causing an overall unacceptable level of impact on wildlife, as well as evaluate potential rare events in Ohio. Results from monitoring will enable ODNR DOW to make recommendations on additional minimization or mitigation measures that, if needed, can be employed. Additionally, the ODNR DOW will assess the predictive value of pre-construction monitoring by comparing those results with post-construction mortality, and ultimately provide Ohio-specific data from wind energy facilities to define typical or expected versus unacceptable levels of mortality to wildlife within Ohio.

0090-5 ODNR DOW has previously and still recommends to Buckeye Wind LLC that the turbines searched every day are conducted on cleared plots.

0090-6 Searcher efficiency trials, scavenger rate trials, vegetation mapping, and other ODNR DOW required wildlife surveys should follow the approved standardized protocol, as stated in the draft HCP.

0090-7 ODNR DOW agrees to review post-construction monitoring data and results after 1 full year to assess the need to continue at the same level of survey intensity for the second year.

0090-8 ODNR DOW acknowledges the efforts that will be made as part of the federal requirements of the ITP that include extensive lifetime mortality monitoring at the facility. We respectfully request the continued inclusion and cooperation with our agency in all reporting, as well as, any adjustments that may be made to the proposed monitoring.

0090-9 As a condition of Buckeye's OPSB certificate, the final post-construction monitoring protocol for the first 2 years at the facility detailing turbines searched and monitoring start date should be submitted to ODNR DOW, OPSB staff, and the USFWS at least 60 days prior to operation of the first turbine.

This ITP would allow for USFWS to exempt Buckeye Wind LLC from the Endangered Species Act and allow for the take of Indiana bats. As stated in the HCP and EIS, the Ohio Revised Code (ORC) 1531.25 states that the Chief of ODNR DOW, with the approval of the wildlife council, shall adopt and may modify and repeal rules restricting the taking or possession of native wildlife that he finds to be threatened with statewide extinction. These rules may only provide for the taking of species for zoological, educational, and scientific purposes, and for propagation in captivity to preserve the species.

0090-10 At this time, the ODNR DOW does not have the explicit authority to authorize a take permit for any state-listed species, including Indiana bats. However, as previously mentioned the ODNR DOW supports renewable energy development in Ohio using

standardized and best management practices that minimize the potential impacts to wildlife resources. Thus, in the absence of such a permit, it has been and continues to be the ODNR DOW recommendation to sign a cooperative agreement, that details best management practices to avoid, minimize, and/or mitigate potential adverse impacts to wildlife and native plant resources within the state as well as how the parties of the Agreement will work cooperatively together to resolve issues that may arise.

0090-10

The draft HCP stated that mitigation will occur in close proximity to an Ohio Priority 2 Hibernaculum or "purchase credits from a USFWS approved Indiana bat mitigation bank." Because Ohio's Indiana bat population could be more directly impacted by this facility's take of individual bats than the regional population, ODNR DOW requests continued and further consultation with any mitigation efforts. ODNR DOW believes all mitigation for this project should be within Ohio and not at the larger USFWS Recovery Unit scale. We respectfully request that ODNR DOW be included in the approval of any alternatives considered, to include mitigation banks.

0090-11

ODNR DOW again appreciates the opportunity to review these documents and look forward to continued collaboration on this project. If you have any questions, please feel free to contact me.

Sincerely,

Jennifer L. Norris

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Attn: FWS-R3-ES-2012-0036

Dear US. Fish and Wildlife Folks, Sept 22,2012

This is a response to portions of the Buckeye Wind LLC Application for an Incidental take permit under the Endangered Species Act of 1973 for the Buckeye Wind Power Project in Champaign County Ohio.

First and foremost I am not representing any group of which I am a member or trustee. These comments are mine alone.

0091-1 Let me get this straight, Buckeye Wind LLC/Everpower Holdings LLC can buy property in another County that has known Indiana Brown Bat hibernacula, maintain it as a bat haven and this will offset any bats that they whack or in this case explode/implode with their 50 turbines in Phase 1 and another 50 or more (500 foot tall) turbines in Phase 11 in Champaign County. Unbelievable!

0091-2 Then of course someone needs to count coup within the footprint of the project here as to how many bats are whacked. At the July 12, 2012 Community meeting with USFW one of your nice young employees attempted to reassure me about how meticulous and scientific the count is. I'm sorry but I can't get rid of the mental picture that I have of the coup counting person running through bean fields and tall corn in the middle of the night under whirling thumping turbines holding a large flashlight.

0091-3 He/she is in pursuit of a fox or raccoon with a mouth full of Indiana Brown Bat. I wonder how successful the count can be if the counter can't run faster than a fox or even find the animal in the corn. If this person does catch up with the predator what happens next? Does he/she grab it by the tail and pry open its little mouth to see if it indeed is dining on an Indiana Brown Bat or a less endangered second cousin?

0091-4 I assume that you are familiar with the Boston University Study that indicates that the combined bat kill by wind turbines and white nose disease may cost farmers in Champaign County in excess of $12,000,000. in pesticides to compensate for the bat loss. Some pesticides are known to be carcinogenic

0091-5 some are not yet known. Does anyone out there care about the people of Champaign County? We have already been told that we have an extremely high cancer rate.

0091-6 I understand that your job does not include impact on people, but you must know that significant kill of one species in a limited area can have a trickledown effect and harm other species particularly with the addition of $12,000,000. in pesticides.

0091-1 I would think that common sense would indicate that Buckeye Wind/Everpower should not be able to buy property elsewhere to offset the bat kill in Champaign County. We are a rural residential area. The

0091-7 more than 1,000 homes and the several thousand people that live within the footprint of this ill conceived and poorly sited industrial wind project will certainly be negatively impacted. We do not need a higher cancer rate or higher operating cost for farmers who are not lease holders.

0091-8 Because of the large number of people who are within the project area and the number of Indiana bats (estimated summer population 2,271 and migration up to 5,800), I believe that USFW should select the No Action alternative and deny Buckeye Wind the requested ITP. It should require the project operate

0091-9

0091-9 under Alternative A, (Maximally Restricted Operations). In addition the following should be used to properly identify and count Indiana Bats; trained search dogs, DNA, mowed areas under turbines, an

0091-10 unidentified bat should be counted as an Indiana Brown Bat, and from April 1 to August 15 a female Indiana Bat carcass should be counted as two fatalities.

Sincerely, Diane McConnell

Union Township, Champaign County Ohio

Proposed Habitat Conservation Plan and Incidental Take Permit for the Indiana Bat (*Myotis sodalis*) for the Buckeye Wind Power Project Champaign County, Ohio

Draft Environmental Impact Statement DES# 12-25
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- By submitting this comment form.

Name and Address:

Linda A. & Sherman Kerns
7777 Shaul Rd.
Cable, OH 43009-9657

Linda A. Kerns
Sherman Kerns

Comment: Coal emission in our air hurts not only the human population, but all the birds which fly in our sky. This includes our bats. The bats take in the same pollution that humans do. But the bats have smaller lungs, so they can not clear this pollution from their lungs as quickly as we do. Wind power puts nothing in the air but air, and they turn very slowly.

0093-1

0093-2

0093-3

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Name and Address:

Mr & Mrs Robert Justice
1466 Perry Rd
Cable OH 43009

Comment:

0093-4

The proposed plan will protect the bats and our environment.

Robert E Justice Anna Justice

The comments that you make will become part of the public record for this project. Your thoughts will help decision-makers develop a preferred alternative. Responses to your comments will be provided in the Final Environmental Impact Statement. All comments submitted electronically and in hardcopy will be posted on *http:// www.regulations.gov*. If you submit a hardcopy comment that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so.

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- By submitting this comment form.

Name and Address:

Jerri Sue Palmer
5094 N. Mutual Union
Cable Ohio 43009

Comment:

0094-4

The proposed plan will protect the habitat and wildlife.

0094-5

And project will be good for community.

The comments that you make will become part of the public record for this project. Your thoughts will help decision-makers develop a preferred alternative. Responses to your comments will be provided in the Final Environmental Impact Statement. All comments submitted electronically and in hardcopy will be posted on *http:// www.regulations.gov*. If you submit a hardcopy comment that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so.

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- By submitting this comment form.

Name and Address:

Roderick and Ila Jean Yocom

0093-6

Comment: This plan will be enough to protect bats and allow Buckeye Wind Project to move on with their plan. We support the Buckeye Wind Project. In our opinion the Buckeye Wind Project will be the best economic move for this area since Honda of America.

The comments that you make will become part of the public record for this project. Your thoughts will help decision-makers develop a preferred alternative. Responses to your comments will be provided in the Final Environmental Impact Statement. All comments submitted electronically and in hardcopy will be posted on *http:// www.regulations.gov*. If you submit a hardcopy comment that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so.

Proposed Habitat Conservation Plan and Incidental Take Permit for the Indiana Bat (*Myotis sodalis*) for the Buckeye Wind Power Project Champaign County, Ohio

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- By submitting this comment form.

Name and Address:

Cory Baker
1478 Yocom Rd Cable OH 43009

Comment:

0093-4

I do support the wind project and believe that the plan in place will protect the bats.

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Name and Address:

Ed Funderburgh
9287 McCarty Rd.
Woodstock, Oh 43084

Comment:

0093-7

I support the proposed plan and wind power project. I feel the project will be great for the community and country.

Ed Funderburgh

The comments that you make will become part of the public record for this project. Your thoughts will help decision-makers develop a preferred alternative. Responses to your comments will be provided in the Final Environmental Impact Statement. All comments submitted electronically and in hardcopy will be posted on *http:// www.regulations.gov*. If you submit a hardcopy comment that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so.

Proposed Habitat Conservation Plan and Incidental Take Permit for the Indiana Bat (*Myotis sodalis*) for the Buckeye Wind Power Project Champaign County, Ohio

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Name and Address:

Ross Yocom
7173 Perry Rd
Cable, Ohio 43009

Comment:

0093-8

I feel that the project proposed is more than adequate for the protection of the bats. We feel this is an important investment in the community.

Ross Yocom
Mary Yocom

The comments that you make will become part of the public record for this project. Your thoughts will help decision-makers develop a preferred alternative. Responses to your comments will be provided in the Final Environmental Impact Statement. All comments submitted electronically and in hardcopy will be posted on *http:// www.regulations.gov*. If you submit a hardcopy comment that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so.

Proposed Habitat Conservation Plan and Incidental Take Permit for the Indiana Bat (*Myotis sodalis*) for the Buckeye Wind Power Project Champaign County, Ohio

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Name and Address:

James Reid
1440 N. Walnut Union Rd
Cable, Ohio 43009

Comment:

0093-9

I believe that this Plan will protect Ind. BAT & the wind turbines will give us clean, cheap, energy.

Thanks.
James Reid

The comments that you make will become part of the public record for this project. Your thoughts will help decision-makers develop a preferred alternative. Responses to your comments will be provided in the Final Environmental Impact Statement. All comments submitted electronically and in hardcopy will be posted on *http:// www.regulations.gov*. If you submit a hardcopy comment that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so.

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Name and Address:

NANCY Roberts
940 N Mutual Union RD
Cable, OH 43009

Comment:

0093-4

I support the project & proposed Conservation plan that will protect our local bat population.

Nancy Roberts 9-26-12

The comments that you make will become part of the public record for this project. Your thoughts will help decision-makers develop a preferred alternative. Responses to your comments will be provided in the Final Environmental Impact Statement. All comments submitted electronically and in hardcopy will be posted on *http:// www.regulations.gov*. If you submit a hardcopy comment that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so.

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Name and Address:

LuAnn Channell
6173 Stringtown Rd.
Cable, OH 43009

Comment:

0093-4

I totally support Buckeye Wind's efforts to protect the Indiana Bat.

LuAnn Channell

The comments that you make will become part of the public record for this project. Your thoughts will help decision-makers develop a preferred alternative. Responses to your comments will be provided in the Final Environmental Impact Statement. All comments submitted electronically and in hardcopy will be posted on *http:// www.regulations.gov*. If you submit a hardcopy comment that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so.

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- By submitting this comment form.

Name and Address:

Robert D. Snyder
Dorothy Snyder

5174 E. Rt 29
Urbana, Oh. 43078

Comment:

0093-7

We support the Buckeye Wind Project and the proposed Habitat Conservation Plan. The project will benefit the environment and our community

The comments that you make will become part of the public record for this project. Your thoughts will help decision-makers develop a preferred alternative. Responses to your comments will be provided in the Final Environmental Impact Statement. All comments submitted electronically and in hardcopy will be posted on *http:// www.regulations.gov*. If you submit a hardcopy comment that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so.

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- By submitting this comment form.

Name and Address:

Catherine Pullins
345 N. Mutual Union Rd
Cable, OH 43009

0093-10

Comment:

Buckeye Wind's plan will protect the wildlife while benefitting our community and nation with clean and low cost power. The plan is reasonable and effective. I urge you to approve the requested permit.

Thank You,
Catherine S. Pullins

The comments that you make will become part of the public record for this project. Your thoughts will help decision-makers develop a preferred alternative. Responses to your comments will be provided in the Final Environmental Impact Statement. All comments submitted electronically and in hardcopy will be posted on *http:// www.regulations.gov*. If you submit a hardcopy comment that includes personal identifying information, you may request at the top of your document that we withhold this information from public review. However, we cannot guarantee that we will be able to do so.

September 26, 2012

Public Comments Processing
U.S. Fish & Wildlife Service
441 North Fairfax Drive
MS 2042 PDM
Arlington, VA 22203

Attn: FWS-R3-ES-2012-0036
Division of Policy & Directives Mgt.

Dear Sir:

0094-1

I believe Everpower & Buckeye Wind have been very sensitive to its environmental impact and try to conform in every way possible to protect the Indiana Bat, birds, etc.

0094-2

We look forward to seeing this project built. I believe in wind power as a logical energy source.

Sincerely,

Georgia Bumgarner

Georgia Bumgarner
8743 E. St. Rt. 29
Mechanicsburg, OH 43044

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

SEP 24 2012

REPLY TO THE ATTENTION OF: E-19J

Public Comments Processing
Attn: FWS-R3-ES-2012-0036
Division of Policy and Directives Management
U.S. Fish and Wildlife Service
4401 North Fairfax Drive, MN 2042-PDM
Arlington, Virginia 22203

Re: Draft Environmental Impact Statement and Proposed Habitat Conservation Plan and Incidental Take Permit for the Indiana Bat for the Buckeye Wind Power Project, Champaign, County, Ohio – EIS No. 20120211

To Whom It May Concern:

In accordance with our responsibilities under Section 309 of the Clean Air Act (CAA), the National Environmental Policy Act (NEPA), and the Council on Environmental Quality regulations for implementing NEPA, the U.S. Environmental Protection Agency (U.S. EPA) has completed its review of the Draft Environmental Impact Statement (Draft EIS) prepared by the U.S. Fish and Wildlife Service (USFWS) for a Habitat Conservation Plan (HCP) for a proposed wind turbine project in Champaign County, Ohio. Buckeye Wind LLC (Buckeye) has applied to USFWS for an incidental take permit (ITP) under the Endangered Species Act of 1973, as amended (ESA), for proposed impacts to the federally-endangered Indiana bat (*Myotis sodalis*). Buckeye has developed the HCP to ensure that impacts to the federally-listed Indiana bat are adequately minimized and mitigated in accordance with the requirements of Section 10 of the ESA.

USFWS proposes to approve the HCP and issue a 30-year ITP to Buckeye. The proposed project would occur within an approximately 80,000-acre area, and involve construction of up to 100 turbines along with associated access roads and infrastructure, with generation of up to 250 megawatts (MW) of electricity. U.S. EPA supports the development of renewable energy resources, as recommended in the National Energy Policy Act of 2005 and President Obama's New Energy for America plan, in an expeditious and well-planned manner. Using renewable energy resources such as wind power can help the nation meet its energy requirements while reducing greenhouse gas emissions.

0095-1

The Draft EIS analyzes the impacts of three action alternatives as well as the "no action" alternative. The action alternatives differ only with respect to operation of the turbines. Under the Proposed Action, operational restrictions would include modifying turbine cut-in speeds and

feathering[1] based on the location of each turbine in relationship to the season and suitability as Indiana bat habitat. Cut-in speeds would range from the manufacturer's cut-in speed up to 6.0 m/s (13.4 mph). Periods over which modified cut-in speeds and feathering would be applied would vary based on seasonal considerations and the habitat in which each turbine is sited. HCP implementation would include post-construction monitoring, adaptive management, and mitigation focused on the Indiana bat, but would also benefit other avian and bat species.

Alternative A, the maximally-restricted operations alternative, would consist of the same build-out as the Proposed Action, with the exception that all turbines would be non-operational during the period when Indiana bats could be present in the project area (sunset to sunrise from April 1 through October 31 of each year). Mortality of all migratory tree bats, including the Indiana bat, would be substantially lower (if not zero) with this alternative. Because there would be negligible effects to the Indiana bat under this alternative, mitigation would not be required, no research would be conducted on bat-turbine interactions, and a HCP would not be implemented.

Alternative B, the minimally-restricted operations alternative, would consist of the same build-out as the Proposed Action, with the exception that all turbines would be feathered until a cut-in speed of 5.0 meters per second (m/s) (11 mph) is reached during the first one to six hours after sunset from August 1 through October 31 of each year. This alternative would include implementation of the HCP. Operations under Alternative B are expected to have greater adverse effects on spring/summer populations of Indiana bats than the Proposed Action. Additional mitigation for take of additional Indiana bats would likely be necessary to offset impacts.

According to the Draft EIS, all turbines and associated facility components would be sited in locations where land use would continue to be rural and agricultural. No direct impacts to (filling of) wetlands would occur. No more than 32 streams would be crossed for a total impact of 1,248 linear feet. Additionally, no more than 16 acres of trees would be cleared, and the three known Indiana bat roost trees noted in the Action Area would not be removed. The HCP includes several measures designed to avoid, minimize, mitigate, and monitor take of Indiana bats as a result of the Proposed Action, including post-construction monitoring and adaptive management to ensure that permitted take is not exceeded and mitigation is successful.

0095-2 Based on our analysis, U.S. EPA rates the Draft EIS as "LO" (Lack of Objections). Please see the enclosed "Summary of Rating Definitions." U.S. EPA has no objection to the preferred HCP proposed by USFWS. Mitigation for the potential impact of the authorized take will be provided by the conservation program described in the HCP. Although we have no objection to the proposed action and HCP, we recommend the Final EIS clarify the following points in the Final EIS.

[1] Feathering occurs where blades are rotated so that they do not catch the wind. Feathering at low wind speeds has been shown to decrease bat mortalities by blade strike by more than 50 percent. (Proposed Habitat Conservation Plan and Incidental Take Permit for the Indiana Bat (*Myotis sodalis*) for the Buckeye Wind Power Project Champaign County, Ohio; Volume II; June 2012)

Aquatic Resources - Streams

0095-3

We commend avoidance of all wetlands within the project area. Additionally, we find the use of tables to present summary information for stream impacts (Table 5.2-1) very helpful to understand impacts at a glance. The Draft EIS indicates access roads, collection lines, and crane paths for the 100-turbine proposed project would cross no more than 32 streams and cause no more than 380.3 linear meters (1,248 linear feet) of impact. The Draft EIS also indicates that a Nationwide Permit will be obtained from the U.S. Army Corps of Engineers for project-related crossings of Waters of the United States. However, the EIS is unclear if these will be permanent or temporary impacts. It is expected that temporary stream impacts can be restored. The Final EIS should discuss temporary versus permanent stream impacts associated with stream crossings, restoration measures to be taken, and associated mitigation (if applicable).

0095-4

Stream bank minimization and mitigation measures include clearing minimal amounts of vegetation followed by stabilizing the soil using native plants. We recommend that the Final EIS include a list of native plants suitable for stream bank revegetation that will be utilized during restoration activities.

Aquatic Resources - Floodplains

0095-5

Although turbines will not be located directly in floodways, several turbine clusters would be located within mapped 100-year floodplains. The Final EIS, should clarify whether floodplain mitigation will be required. If floodplain mitigation is required, additional information on floodplain mitigation, including required mitigation ratios, locations, and narrative information should be provided in the Final EIS.

Aquatic Resources – Intermittent or Ephemeral Streams

0095-6

The Draft EIS states that "when only underground collection lines cross perennial streams (i.e., no co-location of road crossings)…perennial streams crossings would utilize directional boring to avoid impacts. For intermittent or ephemeral streams, trenching would be done when the stream is dry." U.S. EPA supports directional boring of underground utilities to avoid direct stream impacts. However, there is a possibility that intermittent streams may not be dry during construction timeframes; as such, the assumption that open trenching will be done during no-flow conditions may not be possible. In the event that any intermittent or ephemeral streams have active flow at the time of construction, U.S. EPA recommends that a commitment be made to directionally bore the installation rather than open-trench through open stream flow. This commitment should be made in the Final EIS.

Rare, Threatened, and Endangered Species - Eastern Massasauga

0095-7

Because the project area lies within the geographic range of the eastern massasauga rattlesnake, the potential for impacts to this species and its habitat were analyzed. As a result of a field review and wetland delineation, one area of suitable habitat within the project area, a 20-acre wetland, was identified. Project facilities will avoid this habitat; however, construction activities will occur near this wetland. As a result of Buckeye collaborating with the USFWS and the Ohio Department of Natural Resources, the access road that was previously located in close proximity to the wetland has been relocated and will be built at least 50 feet away from the wetland. We request this discussion be supplemented with additional information in the Final EIS related to

0095-7

how the 50 ft. buffer was determined and whether a larger buffer would be more protective of the suitable habitat and species.

We appreciate the opportunity to review this Draft EIS. If you have any questions or comments regarding the contents of this letter, I can be reached via telephone at 312-886-2910 or via email at westlake.kenneth@epa.gov; Kathy Kowal of my staff can be reached at 312-353-5206 or via email at kowal.kathleen@epa.gov.

Sincerely,

Kathleen Kowal

for Kenneth A. Westlake, Chief
NEPA Implementation Section
Office of Enforcement and Compliance Assurance

Enclosure – Summary of Rating Definitions

cc: Megan Seymour, USFWS, Ohio Ecological Services Field Office
Jennifer Norris, Ohio Department of Natural Resources

8127 E. U.S. Hwy 36
Woodstock, Ohio 43084
September 25, 2012

U.S. Fish & Wildlife Service
4401 N. Fairfax Dr.
MS 2042-PDM
Arlington, Va. 22203

RECEIVED
OCT 1 2012
Div. of Policy & Dir. Mgt.

Dear Sir and/or Madam,

I am writing in reference to Ever Power's Environmental Impact Statement and the Habitat Conservation Plan and the two phases of Buckeye Wind Farms.

My husband and I are representatives and supporters of C.A.R.E. and the pro-wind farm side of the issue.

We would like to respectfully submit our views to you.

On July 12, 2012 we attended the open forum at the Champaign County Community Center and spoke with representatives of all exhibitors there and learned many interesting facts.

0096-1

It is evident to us that no problem exists with the Indiana Bats protection and the Wind Turbine Program.

0096-2

We greatly support Buckeye Wind's efforts

0096-2 to protect and enhance wildlife and the tremendous lengths they have gone to as they work closely with local authorities of USFW.

0096-3 Buckeye Wind Power will hugely benefit our community, state and nation, while protecting our wildlife. Our local

0096-4 school district alone will see financial resources of over $800,000. The community both locally and state will see a boost

0096-5 in their economy (as well as national) in the extra taxes farmers will pay on their turbine income. It is a win-win

0096-6 combination. The proposal is a balanced approach to species protection and energy production providing an improved environment for wildlife and people.

0096-7 Either power needs to be recognized and applauded for their work with the USFWS for over a year to develop the first Indiana Bat Protection Plan in the United States.

Thank you for your time in considering all these issues.

Yours truly,
(Mrs) Linda Salyers

September 25, 2012

To Whom It May Concern:

My wife and I are strong supporters of Ever Power and both Buckeye Wind Projects.

We have attended many Ever Power and Community meetings regarding their projects, the most recent being the July 12 meeting.

Ever Power and all its representatives have and are working very hard to meet and go above and beyond" to bring safety to the environment and the community. They are honest, upfront, responsible company.

0096-8

Based upon all the information we have seen, Ever Power and the Buckeye Wind Projects are absolutely No Problem to the environment of to the public.

We encourage you to help make these 2 projects a working reality for our community.

Sincerely,

Michael C. Saltzer

Julia F. Johnson
P.O. Box 230
Urbana, Ohio 43078

September 27, 2012

Public Comments Processing
Attn: FWS-R3-ES-2012-0036
Division of Policy and Directives Management
U.S. Fish and Wildlife Service
4401 N. Fairfax Drive, MS 2042–PDM
Arlington, VA 22203

IN RE: Buckeye Wind Power Project, Champaign County, Ohio
Docket No. FWS-R3-ES-2012-0036

Dear Sir:

0097-1 I reside within the footprint of the referenced project and am writing to urge that the project be denied or, alternatively, the Buckeye Wind project be required to operate under Alternative A (Maximally Restricted Operations).

0097-2 I also request that consideration of this project be delayed until the eight state Habitat Conservation Plan is established.

0097-3 Further, I wish to register my objection to the comments filed in this case by Everpower Wind's leaseholders and employees. These individuals have not disclosed their affiliation with the project or the extent to which they will derive monetary benefit from the least restrictive habitat conservation plan.[1]

Characteristics of the project footprint

0097-4 The Buckeye Wind project is poorly sited in a populated area where approximately 1,000 homes are situated. The area contains 40% of the assessed residential real estate value of Champaign County.

0097-5 Families residing in the area enjoy outdoor recreation amenities including two eighteen-hole golf courses (with many shag bark hickory trees), a hunting club and numerous horse stables and riding facilities. Many residents have gardens (both private and commercial), crop farms and livestock.

0097-6 Everpower's application quotes the U.S. Bureau of the Census as projecting a population growth of 16% over the next ten years.

0097-7 It is believed the site was chosen for its relative proximity to transmission lines. This proximity enables the developer to achieve greater profitability from an otherwise mediocre wind resource.

0097-8 Consideration of the current population – both human and wildlife – was not a factor in the company's location decision.

0097-9 It is wrong for the USFWS to endorse the Buckeye Wind HCP and ITP given that the impact to the human and avian communities will be so pronounced.

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[1] Commenters employed by, under lease or lease option agreement to Everpower for the Buckeye Wind project include Michael Pullins, Matthew Pullins, James Pullins, Jane Bauer, Don Bauer, Andrea S. Tullis, Jodie Wampler/Dove of Ohio; Sherrie McCarty, Boyd McCarty and Jon Berry. Others who have similar undisclosed relationships may have filed written comments. This list is not intended to be complete.

Impact to Farmers

0097-10

My family and I own close to 1,000 acres of farmland within the project footprint. Attached is an article from Science Magazine that appeared in 2011. It is alarming to read of the long term adverse effects caused by wind turbines on agriculture. This is a compelling reason to deny the plan or to require Alternative A. An excerpt from this article[2] notes:

Economic Impact

0097-11

Although much of the public and some policy-makers may view the precipitous decline of bats in North America as only of academic interest, the economic consequences of losing so many bats could be substantial. For example, a single colony of 150 big brown bats (*Eptesicus fuscus*) in Indiana has been estimated to eat nearly 1.3 million pest insects each year, possibly contributing to the disruption of population cycles of agricultural pests (*8*). Other estimates suggest that a single little brown bat can consume 4 to 8 g of insects each night during the active season (*9*, *10*), and when extrapolated to the one million bats estimated to have died from WNS, between 660 and 1320 metric tons of insects are no longer being consumed each year in WNS-affected areas (*11*).

Estimating the economic importance of bats in agricultural systems is challenging, but published estimates of the value of pest suppression services provided by bats ranges from about $12 to $173/acre (with a most likely scenario of $74/acre) in a cotton-dominated agricultural landscape in south-central Texas (*12*). Here, we extrapolate these estimates to the entire United States as a first assessment of how much the disappearance of bats could cost the agricultural industry [see supporting online material (SOM)]

Assuming values obtained from the cotton-dominated agroecosystem in Texas, and the number of acres of harvested cropland across the continental United States in 2007 (*13*), we estimate the value of bats to the agricultural industry is roughly $22.9 billion/year. If we assume values at the extremes of the probable range (*12*), the value of bats may be as low as $3.7 billion/year and as high as $53 billion/year. These estimates include the reduced costs of pesticide applications that are not needed to suppress the insects consumed by bats (*12*). However, they do not include the "downstream" impacts of pesticides on ecosystems, which can be substantial (*14*), or other secondary effects of predation, such as reducing the potential for evolved resistance of insects to pesticides and genetically modified crops (*15*). Moreover, bats can exert top-down suppression of forest insects (*1*, *2*), but our estimated values do not include the benefit of bats that suppress insects in forest ecosystems because economic data on pest-control services provided by bats in forests are lacking. Even if our estimates are halved or quartered, they clearly show how bats have enormous potential to influence the economics of agriculture and forestry.

Although adverse impacts of WNS on bat populations have occurred relatively rapidly, impacts of wind energy development appear to pose a more chronic, long-term concern. WNS has caused rapid and massive declines of hibernating bats in the northeastern United States, where this disease has persisted for at least 4 years (*5*). Thus, the coming growing season may be the first in which the adverse effects of this disease will become noticeable. Because of regional differences in crop production, the agricultural value of bats in the U.S. Northeast may be comparatively small relative to much of the United States (see the figure) (SOM). However, evidence of the fungus associated with WNS was recently detected in the Midwest and Great Plains, where the estimates of the value of bats to agriculture are substantial (see the figure). Additionally, because this region has the highest onshore wind capacity in North America, increased development of wind energy facilities and associated bat fatalities in this region can be expected (*16*). Thus, if mortality of bats associated with WNS and wind turbines continues unabated, we can expect noticeable economic losses to North American agriculture in the next 4 to 5 years.

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[2] Science 1 April 2011: Vol 332 no. 6025 pp. 41-42 DOI: 10.1126/science.1201366 Center for Ecology and Conservation Biology, Department of Biology, Boston University, Boston, MA 02215, USA

State of Wind Development

0097-12

On June 7, 2011 Garrad Hassan, a noted advisor to the wind industry, stated in a presentation to the New England Wind Energy Education Project Conference entitled "Wind Turbine Design and Operation: How to Mitigate Impacts" that:

> **Disclaimer: Bat mortality reductions are based on a limited number of studies at sites with observed high bat mortality. Caution should be taken in extrapolating mortality reductions to other sites as the magnitude and the type of bat mortality is site specific. Projects that are sited to avoid bat interference or that employ other mitigation techniques may not see comparable mortality reductions.**

0097-13

0097-14

0097-15

With each passing day, more information concerning the wind industry is coming to light. Exaggerated claims of generating capacity that have not borne out; a growing body of scientific evidence confirming negligible impact on carbon reduction; inability to thrive as an industry without public subsidy and state mandates; insignificant contribution to nation's energy supply; epidemiological confirmation of adverse impact on human and wildlife health due to infrasound – the list goes on and on. The benefits of wind energy do not outweigh the costs and the future of the industry *worldwide* is in question. Given this state of affairs, the prospect of the USFWS essentially removing or diminishing the protection of bats, important contributors to the ecological health of the nation, is unthinkable.

0097-16

If you choose to issue a permit, there is neither a compelling reason nor any rational justification for not requiring Buckeye Wind to earn the privilege of more lenient mitigation practices over a period of time. In fact, they should be required to build the project in phases over a period of years rather than all at once.

Sincerely,

Julia F. Johnson

Attachment

Science 1 April 2011:
Vol. 332 no. 6025 pp. 41-42
DOI: 10.1126/science.1201366

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POLICY FORUM

CONSERVATION

Economic Importance of Bats in Agriculture

Justin G. Boyles[1,*], Paul M. Cryan[2], Gary F. McCracken[3], and Thomas H. Kunz[4]

± Author Affiliations

*Author for correspondence. E-mail: jgboyles@zoology.up.ac.za

White-nose syndrome (WNS) and the increased development of wind-power facilities are threatening populations of insectivorous bats in North America. Bats are voracious predators of nocturnal insects, including many crop and forest pests. We present here analyses suggesting that loss of bats in North America could lead to agricultural losses estimated at more than $3.7 billion/year. Urgent efforts are needed to educate the public and policy-makers about the ecological and economic importance of insectivorous bats and to provide practical conservation solutions.

Infectious Disease and Wind Turbines

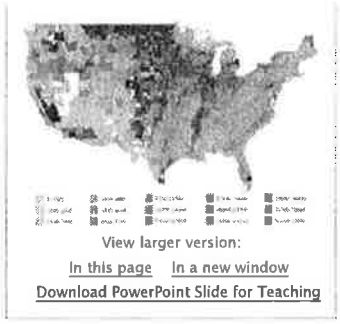
Insectivorous bats suppress populations of nocturnal insects (*1*, *2*), but bats in North America are under severe pressure from two major new threats. WNS is an emerging infectious disease affecting populations of hibernating cave-dwelling bats throughout eastern North America (*3*). WNS is likely caused by a newly discovered fungus (*Geomyces destructans*). This fungus infects the skin of bats while they hibernate and is thought to trigger fatal alterations in behavior and/or physiology (e.g., premature depletion of energy reserves) (*3*, *4*). Since February 2006, when WNS was first observed on bats in upstate New York, *G. destructans* has spread west of the Appalachian Mountains and into Canada. To date, over one million bats have probably died, and winter colony declines in the most affected region exceed 70% (*5*). Populations of at least one species (little brown bat, *Myotis lucifugus*) have declined so precipitously that regional extirpation and extinction are expected (*5*).

At the same time, bats of several migratory tree-dwelling species are being killed in unprecedented numbers at wind turbines across the continent (*6*, *7*). Why these species are particularly susceptible to wind turbines remains a mystery, and several types of attraction have been hypothesized (*6*). There are no continental-scale monitoring programs for assessing wildlife fatalities at wind turbines, so the number of bats killed across the entire United States is difficult to assess. However, by 2020 an estimated 33,000 to 111,000 bats will be killed annually by wind turbines in the Mid-Atlantic Highlands alone (*7*). Obviously, mortality from these two factors is substantial and will likely have long-term cumulative impacts on both aquatic and terrestrial ecosystems (*5*, *7*). Because of these combined threats, sudden and simultaneous population declines are being witnessed in assemblages of temperate-zone insectivorous bats on a scale rivaled by few recorded events affecting mammals.

The worth of insectivorous bats.

Estimated annual value of insectivorous bats in the agricultural industry at the county level. Values (×$1000 per county) assume bats have an avoided-cost value of ~$74/acre of cropland (*12*). (See SOM for details.)

Economic Impact



Although much of the public and some policy-makers may view the precipitous decline of bats in North America as only of academic interest, the economic consequences of losing so many bats could be substantial. For example, a single colony of 150 big brown bats (*Eptesicus fuscus*) in Indiana has been estimated to eat nearly 1.3 million pest insects each year, possibly contributing to the disruption of population cycles of agricultural pests (*8*). Other estimates suggest that a single little brown bat can consume 4 to 8 g of insects each night during the active season (*9*, *10*), and when extrapolated to the one million bats estimated to have died from WNS, between 660 and 1320 metric tons of insects are no longer being consumed each year in WNS-affected areas (*11*).

Estimating the economic importance of bats in agricultural systems is challenging, but published estimates of the value of pest suppression services provided by bats ranges from about $12 to $173/acre (with a most likely scenario of $74/acre) in a cotton-dominated agricultural landscape in south-central Texas (*12*). Here, we extrapolate these estimates to the entire United States as a first assessment of how much the disappearance of bats could cost the agricultural industry [see supporting online material (SOM)].

Assuming values obtained from the cotton-dominated agroecosystem in Texas, and the number of acres of harvested cropland across the continental United States in 2007 (*13*), we estimate the value of bats to the agricultural industry is roughly $22.9 billion/year. If we assume values at the extremes of the probable range (*12*), the value of bats may be as low as $3.7 billion/year and as high as $53 billion/year. These estimates include the reduced costs of pesticide applications that are not needed to suppress the insects consumed by bats (*12*). However, they do not include the "downstream" impacts of pesticides on ecosystems, which can be substantial (*14*), or other secondary effects of predation, such as reducing the potential for evolved resistance of insects to pesticides and genetically modified crops (*15*). Moreover, bats can exert top-down suppression of forest insects (*1*, *2*), but our estimated values do not include the benefit of bats that suppress insects in forest ecosystems because economic data on pest-control services provided by bats in forests are lacking. Even if our estimates are halved or quartered, they clearly show how bats have enormous potential to influence the economics of agriculture and forestry.

Although adverse impacts of WNS on bat populations have occurred relatively rapidly, impacts of wind energy development appear to pose a more chronic, long-term concern. WNS has caused rapid and massive declines of hibernating bats in the northeastern United States, where this disease has persisted for at least 4 years (*5*). Thus, the coming growing season may be the first in which the adverse effects of this disease will become noticeable. Because of regional differences in crop production, the agricultural value of bats in the U.S. Northeast may be comparatively small relative to much of the United States (see the figure) (SOM). However, evidence of the fungus associated with WNS was recently detected in the Midwest and Great Plains, where the estimates of the value of bats to agriculture are substantial (see the figure). Additionally, because this region has the highest onshore wind capacity in North America, increased development of wind energy facilities and associated bat fatalities in this region can be expected (*16*). Thus, if mortality of bats associated with WNS and wind turbines continues unabated, we can expect noticeable economic losses to North American agriculture in the next 4 to 5 years.

Policy

A recently stated goal of the United Nations Environment Programme is to demonstrate the value of biodiversity to policy-makers and the public (*17*). In keeping with this goal, we hope that the scale of our estimates and the importance of addressing this issue will resonate both with the general public and policy-makers. Bats provide substantial ecosystem services worldwide, and their benefits to human economies are not limited to North America. For example, pioneering research in tropical ecosystems shows the importance of plant-visiting bats in the pollination of valuable fruit crops (*18*, *19*). Although the economic impacts of mass mortality of bats associated with WNS appear to be confined, at present, to North America, wind turbines are also causing bat fatalities in Europe (*20*), and the potential for WNS to spread to other parts of the world is unknown.

We suggest that a wait-and-see approach to the issue of widespread declines of bat populations is not an option because the life histories of these flying, nocturnal mammals—characterized by long generation times and low reproductive rates—mean that population recovery is unlikely for decades or even centuries, if at all. Currently, there are no adequately validated or generally applicable methods for substantially reducing the impacts of WNS or wind turbines on bat populations. To date, management actions to restrict the spread of WNS have been directed primarily toward limiting anthropogenic spread (e.g., cave and mine closures and fungal decontamination protocols) (*21*). Other proactive solutions for understanding and ameliorating the effects of WNS include developing improved diagnostics to detect early-stage infections and fungal distribution in the environment; defining disease mechanisms; investigating the potential for biological or chemical control of the fungus; and increasing disease resistance through habitat modification, such as creation of artificial or modified hibernacula that are less conducive to disease development and transmission (*11*, *22*). Other approaches, such as culling of infected bats have been widely discussed and dismissed as viable options for

control (23). New research also shows that altering wind turbine operations during high-risk periods for bats significantly reduces fatalities (24, 25). Specific action on these issues will benefit from scientific research carefully aimed at providing practical conservation solutions for bats in the face of new threats and at assessing their economic and ecological importance. We as scientists should also make concerted efforts to develop and use more effective methods for educating the public and policy-makers about the ecosystem services provided by bats.

Bats are among the most overlooked, yet economically important, nondomesticated animals in North America, and their conservation is important for the integrity of ecosystems and in the best interest of both national and international economies. In our opinion, solutions that will reduce the population impacts of WNS and reduce the mortality from wind-energy facilities are possible in the next few years, but identifying, substantiating, and applying solutions will only be fueled in a substantive manner by increased and widespread awareness of the benefits of insectivorous bats among the public, policy-makers, and scientists.

Supporting Online Material

www.sciencemag.org/cgi/content/full/332/6025/41/DC1

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Proposed Habitat Conservation Plan and Incidental Take Permit for the Indiana Bat (*Myotis sodalis*) for the Buckeye Wind Power Project Champaign County, Ohio

Draft Environmental Impact Statement DES# 12-25
Comment Form

The public is encouraged to provide comments on the abovementioned Draft Environmental Impact Statement (EIS), Draft Habitat Conservation Plan, and Draft Implementing Agreement. Comments will assist USFWS in its decision making regarding the Proposed Action and alternatives. Comments can be submitted:

- By writing to: Public Comments Processing, Attn: FWS-R3-ES-2012-0036; Division of Policy and Directives Management; US Fish and Wildlife Service; 4401 North Fairfax Drive, MS 2042-PDM; Arlington, Virginia 22203
- By electronic submittal: Go to the Federal Rulemaking Portal: http://www.regulations.gov. In the Search box enter FWS-R3-ES-2012-0036. Then, on the left side of the screen under the Document Type heading, click on the Notices link to locate these documents and submit a comment.
- By submitting this comment form.

Name and Address:

Don Bauer
3548 State Route 54
Urbana, Ohio 43078

Comment:

0098-1 I attended the hearing held in July. I support the plan as land out by
0098-2 Buckeye Wind to protect and enhance wildlife while protecting our
0098-3 environment. The Buckeye Wind Project will benefit our community and our nation. Their plan is very workable and a balanced approach to species
0098-4 protection and energy production. I believe we need to see this project built
0098-5 for our future and my grandkids future. Let's get going now!!!!!!!!!!!!!!

Thanks you for considering my comments

Don Bauer

Appendix K, Section 2: Comment Responses

Appendix K, Section 2: Comment Responses

Itemized Comment Number	Itemized (Original) Comment	Response
0006-1	We request that the project be denied or alternatively, that Buckeye Wind project operate under Alternative A (maximally Restricted Operations).	Thank you for your comment.
0007-1	They are effective in reducing our insect population, decreasing the need for chemical pesticides on our crops. Also, during this summer of record West Nile Virus occurances in Ohio, I have not heard of a problem in Champaign County.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0007-2	As a steward of the land, I have seen many unintended consequences from not doing full due diligence when introducing something new in the environment.	Section 5 of the EIS (Environmental Consequences) evaluates the consequences of the Proposed Action and alternatives. Future monitoring and related adaptive management would identify and address any unanticipated undesirable effects of the Proposed Action or alternatives, should the ITP be issued and the Project be developed.
0007-3	I urge the U.S. Fish and Wildlife Service to deny the ITP due to unacceptable risk to the Indiana bat and other wildlife.	The HCP and EIS have examined potential impacts to Indiana bats and other wildlife.
0008-1	I am terrified of what these wind turbines will do to my family, my neighbors and friends in this community. Champaign County is too heavily populated for this.	Sections 4.14 (Health and Safety) and 5.14 (Health and Safety) of the EIS discuss the potential impacts of the Proposed Action and alternatives on human health and safety. Section 5.14 describes that the Applicant has taken a number of steps to avoid and minimize impacts to health and safety. The Project is not expected to have significant adverse impacts on health and safety.
0008-2	Property values are going to go down	As indicated in several professional and academic studies, no conclusive evidence is available to suggest that property values decrease when a wind farm is placed in proximity to a residential structure. However, the studies also indicated that perception can play a role in determining the value of a property. A more detailed discussion of property values is included in Section 4.9 of the EIS (Socioeconomics and Environmental Justice).
0008-3	insects will become unbearable because of the decrease in birds and bats in the area, etc	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures would also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats.
0008-4	There WON'T be hundreds of jobs created,	Construction of the Project would generate a number (~249) of full time construction jobs over the one or two 12 to 18 month construction phases, as well as many more indirect full-time jobs

Itemized Comment Number	Itemized (Original) Comment	Response
		(~2,954). Table 5.9-1 of the EIS summarizes the projected number of jobs created by construction of the Project.
0008-5	We will NOT be benefitting from the power that these turbines will produce	The energy generated by the Project would collect to a new electric substation in Union Township in Champaign County.
0008-6	My children will not be safe to go out and play	Sections 4.14 (Health and Safety) and 5.14 (Health and Safety) of the EIS discuss the potential impacts of the Proposed Action and alternatives on human health and safety. Section 5.14 describes that the Applicant has taken a number of steps to avoid and minimize impacts to health and safety. The Project is not expected to have significant adverse impacts on health and safety.
0008-7	I worry about what the constant shadow flicker will do to my children, my pets and my husband and myself.	The available research suggests that 30 hours of shadow flicker per year is the threshold of significant impact. The Applicant has committed that the 100-turbine array would not result in any non-participating residence experiencing more than 30 hours of shadow flicker.
0008-8	Anyone with epilepsy will have to move away.	Please see response to comment 0009-2.
0008-9	If people would stop and think about the long term affects of these turbines, they would realize that Champaign County will lose residents. People will simply let the banks take over their homes and move away.	Sections 4.14 (Health and Safety) and 5.14 (Health and Safety) of the EIS discuss the potential impacts of the Proposed Action and alternatives on human health and safety. Section 5.14 describes that the Applicant has taken a number of steps to avoid and minimize impacts to health and safety. The Project is not expected to have significant adverse impacts on health and safety.
0008-10	Schools will lose students and new businesses will not even consider Champaign County for their home because of the lack of quality workers.	Thank you for your comment.
0009-1	With the potential losses to the Indiana Bat population, our efforts of organic gardening will certainly be compromised.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats.
0009-2	Also, with the increased possibility of health risks to my family, our intent will be to sell our home and move from Champaign County. We will not risk the health and wellbeing of our children or ourselves.	Sections 4.14 (Health and Safety) and 5.14 (Health and Safety) of the EIS discuss the potential impacts of the Proposed Action and alternatives on human health and safety. Section 5.14 describes that the Applicant has taken a number of steps to avoid and minimize impacts to health and safety. In addition, the first 52 turbines have been certified by the Ohio Power Siting Board (OPSB), and the remaining turbine locations are currently being evaluated by the OPSB. The Project is not expected to have significant adverse impacts on health and safety.
0009-3	We realize that the chances of selling our home without a	As indicated in several professional and academic

Itemized Comment Number	Itemized (Original) Comment	Response
	huge loss are slim to none. More than likely, we will end up giving our $300,000 house back to the bank while ruining our 800+ credit scores.	studies, no conclusive evidence is available to suggest that property values decrease when a wind farm is placed in proximity to a residential structure. However, the studies also indicated that perception can play a role in determining the value of a property. A more detailed discussion of property values is included in Section 4.9 of the EIS (Socioeconomics and Environmental Justice).
0009-4	We request that the project be denied or, alternatively, that the Buckeye Wind project operate under Alternative A (Maximally Restricted Operations).	Thank you for your comment.
0010-1	Please don't let the greed of a select few people in this community ruin our beautiful country side!!!	Thank you for your comment.
0011-1	Champaign County farmers will have a lot of additional costs for increased pesticides or whatever needed because of all the bats being killed from the turbines and white noise syndrome.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0011-2	I request this project be denied it's unwanted, inefficient and a TERRIBLE waste of money!	Thank you for your comment.
0012-1	These bats help keep the insect population down and I feel the turbines will only reduce the bat population.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats.
0013-1	I am opposed to anything but the most stringent of rules for the Buckeye Project and I have 2 articles in print to reference: 1. According to the Kansas City Star in September 2011, an author Kunz, published in the journal Science that bats will experience massive die-offs in the next 3 years b/c of both a fungus and wind turbines. His estimates for this economic impact in the Midwest region are losses of anywhere from 3.7 to 53 Billion $.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0013-2	I am opposed to anything but the most stringent of rules for the Buckeye Project and I have 2 articles in print to reference: 2. In July of 2011 in the Pittsburgh Post-Gazette, a study was done on their turbines and dead bats surrounding them. Each turbine averaged 25 bat deaths/year and each bat is estimated to consume as many as 500 insects/hour. Therfore, their bat deaths equated to 17 million UNeaten bugs that could have saved farmers $278 million in pesticides.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0013-3	Ohio depends on our agricultural business and anything you do to damage that business will mean a loss of revenue and jobs for our state. In this economic recession, where	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats,

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	inflation is clearly occurring at the supermarket, the last thing that consumers and farmers need is rising costs due to the increased use of pesticides; and this does not consider the physical consequences of consuming more pesticides and putting them in our waterways.	those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0014-1	Buckeye Power should be restricted from erecting any wind turbines which would endanger the Indiana bats, or any other wildlife such as birds.	The HCP and EIS have considered potential impacts to the Indiana bats and other wildlife.
0015-1	I strongly feel that Buckeye Wind, if they eventually operate wind turbines noted in this project, operate at least under the restrictions detailed in "Alternative A".	Thank you for your comment.
0015-2	There is no reason to allow an enterprise like this to circumvent human and wildlife protections that have been enforced in the past and would surely also be enforced in the future, for other personal and commercial endeavors different from this.	By submitting an application for an ESA Section 10(a)(1)(B) permit, Buckeye Wind is complying with the intent of the ESA as it pertains to non-Federal activities that may result in take of species listed under the ESA. Further, by developing an Avian and Bat Protection Plan and following various draft guidance documents for wind power projects (USFWS 2003, FAC 2010) Buckeye Wind is making a good faith effort to comply with the Migratory Bird Treaty Act.
0015-3	There have already been allowances made, before much public notice was taken, which I believe have set the stage for negative safety, environmental and economic conditions in the proposed zone.	As described in Section 2.7 of the HCP (Public Participation), the Applicant has followed all appropriate procedures and made adequate public disclosures related to the Project. As described in Section 2.4 of the EIS (Public and Agency Involvement), impacts related to safety, environmental and economic conditions have been adequately addressed through the Ohio Power Siting Process and through the analysis in the EIS.
0015-4	The sponsor of this wind project will do what it can to positively affect its bottom line, with much less concern for the area and the potential negative effects form the project during construction and operation. This energy concept, if it is economically, environmentally and finalcially sound, should be able to stand on it's own legs. As we all well know, it is already being heavily artifically supported by government financial assistance.	Thank you for your comment.
0016-1	White Nose Syndrome adds significantly to our concern for the welfare of these beloved creatures. Don't allow Buckeye Wind's Impact Statement and Conservation Plan to alter or dilute stringent efforts to protect our bats.	Section 5 of the HCP (Impact Assessment) has considered potential impacts of the Project on Indiana bats. Significant avoidance, minimization and mitigation measures have been proposed as part of Section 6 of the HCP (Conservation Program).
0016-2	The value of wind farms cannot be placed above the value of wildlife, especially bats.	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife.
0016-3	Everpower's Buckeye Wind is requesting the least restrictive scenarios with their Incidental Take Permit and Habitat Conservation Plan. Please reject their plans in favor of Alternative A (Maximally Restricted Operations) or disallow the construction of industrial wind turbines that will cost the lives of our beneficial bats.	Thank you for your comment.

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0017-1	Buckeye Wind has been diligent in its effort to protect the Indiana bat in its Draft Environmental Impact Statement and Habitat Conservation Plan. Buckeye Wind has worked closely with a number of agencies to perfect the plan.	Thank you for your comment.
0017-2	The proposed Buckeye Wind Project will provide immense benefits to the local community and our nation while protecting our environment.	Thank you for your comment.
0017-3	I urge you to issue the requested permit.	Thank you for your comment.
0018-1	Wind certainly is the best non-polluting form of energy available, emitting far less pollution than other forms of energy producers.	Thank you for your comment.
0018-2	Being safe for both humans and wildlife, the project will generate power for the area, create jobs, and put money back in the region, especially to the area schools.	Construction of the Project would generate a number (~249) of full time construction jobs over the one or two 12 to 18 month construction phases, as well as many more indirect full-time jobs (~2,954). Table 5.9-1 of the EIS summarizes the projected number of jobs created by construction of the Project.
0018-3	After all the studies and reports that have been reviewed and analyzed, It would seem to me, in this time of enviromental concern and economic stress, that approval of this project would be the logical thing to do, not only for the present, but for future generations.	Thank you for your comment.
0019-1	My wife and I are very concerned with the lack of information that is being used to evaluate Everpowers sitings of turbines for the Buckeye Wind Project.	The HCP and EIS have considered potential impacts to Indiana bats, other wildlife and the human environment. Every effort has been made to utilize all relevant information and best available science. The 100 turbines would be sited in locations consistent with OPSB-required setbacks from property lines and residential structures. Advanced engineering and micro-siting was used to ensure that turbines would not be constructed unless the setback requirement would be met or an appropriate waiver would be executed (EDR 2009a).
0019-2	The Indiana bat is a vital ingredient to sucessful farms in this area. With increased pesticides having to make up for the lack of decreased bats, what other wildlife will be adversely affected?	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0019-3	Please remember that this judgement will affect OUR HOMES , OUR FARMS and OUR COMMUNITY !!!	Thank you for your comment.
0020-1	I support the plan as land out by Buckeye Wind to protect and enhance wildlife while protecting our environment.	Thank you for your comment.
0020-2	The Buckeye Wind Project will benefit our community and our nation.	Thank you for your comment.
0020-3	Their plan is very workable and a balanced approach to	Thank you for your comment.

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	species protection and energy production.	
0021-1	I LIKE THE IDEA OF THE WIND TURBINES AND THE BATS CO-EXISTING.	Thank you for your comment.
0021-2	CLEAN ENERGY AND A GOOD HABITAT FOR BATS TO LIVE IN FOR 40 TO 50 YEARS DOWN THE ROAD. MUCH BETTER THAN HAVING HABITAT DESTROYED AND HOUSES BEING BUILT.	Thank you for your comment.
0022-1	I strongly support the Buckeye Wind Project project's proposed Habitat Conservation Plan and Incidental Take Permit for the Indiana Bat as submitted to the U.S. Fish & Wildlife Service (USFW) in May 2012.	Thank you for your comment.
0022-2	Everpower, the Buckeye Wind Project's developer, has gone to great lengths in establishing a plan that protects our natural resources, including wildlife of all types.	Thank you for your comment.
0022-3	The developer worked with local USFW authorities for over one year to identify means of minimizing wildlife impact, including any impact upon the Indiana Bat, serves as evidence to the rigor and thoughtfulness offered in the plan submitted for consideration.	Thank you for your comment.
0022-4	In reviewing the plan you will clearly see the collaboration between the developer and the agency resulted in a sound, practical, balanced plan which enables clean energy production while creating a net environmental and wildlife benefit vis-à-vis traditional hydrocarbon based energy.	Thank you for your comment.
0023-1	Buckeye Wind has gone above and beyond taking steps to provide safe habitat for all the living creatures in the Champaign County area. The habitat conservation plan for the Indiana Brown Bat is proof of the commitment Buckeye Wind as for the community. Keeping the Indiana Brown Bat save is extremely important for the balance of nature.	Thank you for your comment.
0024-1	I understand that they are endangered and that Wind Turbines may effect their lifestyle. However, there is most likely the possibility that they can and will adapt to whatever effect that Wind Turbines may create.	Thank you for your comment.
0024-2	This has created jobs and will mean more work in the future.	Construction of the Project would generate a number (~249) of full time construction jobs over the one or two 12 to 18 month construction phases, as well as many more indirect full-time jobs (~2,954). Table 5.9-1 of the EIS summarizes the projected number of jobs created by construction of the Project.
0024-3	There is also the potential of wind generated power causing less need for the consumption of fossil fuels thereby creating the possibility of saving some other endangered species in this country or in this world.	Thank you for your comment.
0025-1	Currently, Everpower is not being required to do what must be done in the interest of the welfare of wildlife and farms that help to create the national food supply. Bats are critical to insect control, and there are a significant number of Indiana and other types in this Action Area. If we just	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of

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	consider mosquitoes, without bats, in a wet year and when the previous winter was mild, we can even be looking at the need for pesticide just to moderate West Nile and possibly malaria risks.	the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0025-2	That results in an upswing in the mosquito and agricultural pests, requiring greater amounts of pesticide, something that not only endangers farms financially but also may endanger health. We already hear that pesticides' cumulative effects cause numerous health issues in consumers.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0025-3	The Action Area even includes maternal roosts and migratory routes, so this project would likely destroy this population.	Section 5.1.2.5 of the HCP (Biological Significance of Incidental Take [Collision Mortality]) addresses the biological significance of the take in terms of local maternity colonies and the Midwest RU. In this section, Buckeye Wind describes the impact of the Project on these two sub-population sets in terms of pre- and post-WNS. ITP issuance criteria states that, "the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild" (ESA 10(a)(2)(B)(iv). The purpose of Section 5.1.2.5 is to demonstrate through modeling that, regardless of the effects of WNS, the Project will not reduce maternity colony or the Midwest RU population to a non-viable population level appreciably sooner as a result of the Project than it would as a result of WNS in the absence of Project-related take. The modeling in the HCP demonstrates that there would be no appreciable reduction on the survival or recovery of the species due Project-related take.
0026-1	The Buckeye Wind Project has gone to lengths to protect wildlife and work with folks here in the county, I look forward to seeing this project built. I support the Buckeye Wind Project.	Thank you for your comment.
0026-2	The Buckeye Wind Project will benefit Champaign County while protecting the wildlife. The proposed plan is a workable and balanced approach to species protection and energy production.	Thank you for your comment.
0027-1	As Director of Economic Development for Hardin County, I urge you to support the extension of the federal Production Tax Credit (PTC) for wind energy. The PTC fosters economic security and promotes energy diversity. If Congress does not act soon, we could see a significant loss of jobs and roll back in the progress that we have made as a nation in diversifying our energy portfolio. The Production Tax Credit is a pro-development tax policy. It has driven more than $10-20 billion annually in private sector investments. In turn, these investments have created new jobs and positively impacted local economies. At the present time 420 domestic manufacturing facilities are in some way contributing to wind energy. In addition, 75,000	Thank you for your comment.

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	Americans are employed in this industry. If Congress fails to extend the PTC or waits too long America will feel the negative effects. For Hardin County, PTC will generate clean renewable electric energy for thousands of homes and businesses and pay millions in tax revenue to our schools and local government. The proposed wind farms will contribute to Ohio and U.S. energy independence and assist Ohio in achieving its Advanced Energy Portfolio Standard. Most importantly, the Hardin County wind farms will create needed construction and manufacturing jobs and establish permanent operational and maintenance jobs. As the expiration date for the PTC draws nearer many leading wind project developers have begun to slow their plans for new projects in 2013 and beyond. Extending the Production Tax Credit is not a partisan issue. It's an American issue. This policy not only helps develop our nation's wind energy industry, but it also creates jobs, and positive economic impacts. Hardin County strongly supports the passage of the PTC. Sincerely, John Hohn Director of Economic Development Hardin County, Ohio.	
0028-1	Creation of the first project has been approved by the Ohio Power Siting Board (OPSB). The company was issued a Certificate of Public Need and Necessity that involved both public and judicial hearings allowing the applicant, citizens groups and local government opportunities to examine and discuss a variety of environmental, aesthetic and economic issues. OFBF participated as a party of first record in these proceedings. Information concerning these evaluations can be found in OPSB Case #08-0666-EL- BGN.	Thank you for your comment.
0028-2	Buckeye Wind LLC is in the process of having the second project approved. Again, the applicant, citizens groups and local government have opportunities to examine and discuss issues concerning the project. OFBF has been recognized as a party of record in these proceedings also. Information concerning these evaluations can be found in OPSB Case #12-0160-EL-BGN.	Thank you for your comment.
0028-3	Habitat for *Myotis sodalis* is found throughout the Buckeye Wind Action Area. Construction, operation, maintenance and decommissioning may have the potential to harm, harass or kill specimens of this endangered species.	As described in Section 6.1.1 of the HCP (Project Planning and Siting), attempts were made to avoid impact by locating the Project outside a five mile buffer of the discovered bat maternity colonies. Further adjustments are not practical because it would require that the proposed turbine locations be moved outside of the Action Area. Project planning in the Action Area continued after discussions with the USFWS, and other avoidance and minimization measures were discussed and developed as part of the draft conservation program. In lieu of more site specific data and because maternity colonies may move across the Action Area over time, the Applicant decided to focus on operational feathering regimes, which have been documented to reduce take of bats. The Habitat Suitability Model and cut-in speeds differentiated based on habitat Category offers a more informed site-specific minimization approach than generically applying a 2.5 miles "buffer." The

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		HCP describes how turbines within different Habitat Categories would have varying cut-in speeds, and adaptive management could result in additional protections (e.g. higher cut-in speeds) for turbines within different Categories, if monitoring indicates that those turbines pose higher risks to bats.Avoidance measures were also applied during Project design. See HCP Sections 6.1 (Avoidance Measures) and 6.2 (Minimization Measures) for a detailed description of the avoidance and minimization measures that provide added protection to Indiana bats in suitable habitat areas. Also, the Project is sited greater than 10 miles from Indiana bat hibernacula.
0028-4	Buckeye Wind LLC's HCP was created in accordance with Section 10 of the Endangered Species Act. I. The plan addresses conservation needs for the Indiana bat, including measures to avoid and minimize takings. Mitigation strategies protecting and enhancing existing habitat, monitoring takings through post-construction mortality studies and adaptive management steps are presented. Moreover, the company will fund research to better understand Indiana bat and wind turbine interaction.	Thank you for your comment.
0028-5	While all turbines in the project will be built in open farm fields that are not considered by many experts as prime habitat for Myotis sodalist, many of the woodlots, tree lines and fence rows linking farm fields throughout the area could be.	Thank you for your comment.
0028-6	Monitoring mortality rates will include surveying open farm ground where issues concerning soil compaction and crop damage could be a concern.	The Applicant has included assurances for lease-holding farmers to address any issues associated with crop damage or soil compaction. Compensation for crop damage and revenue payments, as well as continual coordination with farmers to minimize all impacts, are expected to address concerns regarding crop damage and soil compaction.
0028-7	Farm Bureau leaders will work with the wind developer, USFWS personnel, researchers and other interested parties to create effective strategies where HCP objectives can be achieved. These efforts could include education/outreach projects and cooperation agreements between all stakeholders.	Thank you for your comment.
0028-8	We understand that the USFWS evaluated several case scenarios as part of its evaluation process. Options focusing on minimal and maximum operational restrictions, as well as "no action" alternatives were explored. OFBF policy supports the proposal whereby USFWS issues a permit specifying modified turbine operations, as described in Buckeye Wind LLC's HCP.	Thank you for your comment.
0028-9	Striking a balance for energy and environmental policy, the USFWS and Buckeye Wind LLC have an opportunity to create a process where communities can invest in a diversified energy portfolio while addressing needs for effective wildlife habitat.	Thank you for your comment.

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0028-10	What can be established in Ohio can be repeated in other states. We look forward to working with you as this process continues.	Thank you for your comment.
0029-1	I strongly request that maximum protection be provided for the bats of Champaign Co. in regards to the Buckeye Wind Project. A large population of bats would be destroyed if the project is approved as proposed.	Thank you for your comment. The HCP and EIS have considered potential impacts to Indiana bats and other bats.
0029-2	The protection of bats can be achieved by (1) deny project approval or (2) required Buckeye Wind to operate under a maximum restricted opertions format.	Thank you for your comment.
0029-3	Alternative measures to reduce the risk to bats should include but not be limited to adequate turbine sitting setbacks (5 miles) from known capture/roost sites, and 10 miles from hibernacula.	As described in Section 6.1.1 of the HCP (Project Planning and Siting), attempts were made to avoid impact by locating the Project outside a five mile buffer of the discovered maternity colonies. Adjustments are not practical because it would require that the proposed turbine locations be moved outside of the Action Area. Project planning in the Action Area continued after discussions with the USFWS, and other avoidance and minimization measures were discussed and developed as part of the draft conservation program. The Applicant, together with input from the USFWS, has developed an HCP that focuses on operational feathering regimes, which have been documented to reduce take of bats, in order to avoid and minimize take to the maximum extent practicable. The HCP describes how turbines within different Habitat Categories would have varying cut-in speeds, and adaptive management could result in additional protections (e.g. higher cut-in speeds) for turbines within different Categories, if monitoring indicates that those turbines pose higher risks to bats. The Project is sited greater than 10 miles from Indiana bat hibernacula.
0029-4	The draft EIS and HCP fails to provide concrete evidence that off site habitat protection will actually compensate for actual losses of Indian bats.	The mitigation plan was derived by examining the recovery strategy provided in the Indiana bat Draft Recovery Plan First Revision (USFWS 2007). The recovery plan describes the means by which the Indiana bat population decline will be halted by removing or reducing threats such that the Indiana bat can survive in the wild without the protection of the ESA. Protection of Priority 2 hibernacula and habitat surrounding them is specifically identified in the Recovery Plan as an action that will contribute to the recovery of the species. Further, the USFWS's Indiana bat Section 7 and Section 10 Guidance for Wind Energy Projects (2011e) states that it is valid to identify high priority recovery actions as mitigation measures if these actions will improve reproductive success or survivorship of bats belonging to the same population unit

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		(including maternity colony, hibernating colony, or recovery unit). Section 6.3 of the HCP (Mitigation Measures) describes how the mitigation plan will contribute to improved reproductive success and survivorship. Therefore, the benefits associated with off-site mitigation at a Priority 2 hibernaculum within the same recovery unit as the Project are not speculative. Further, monitoring of the mitigation Project over the permit term will ensure that the mitigation habitat remains suitable to offset the impacts of the taking. If the mitigation habitat becomes unsuitable during the permit term, the adaptive management plan will be implemented to restore the mitigation site to suitable habitat.
0029-5	Section 10 of the Endagereded Species Act requires the applicant for an ITP to minimize and mitigate take of endangered species to the maximimum extent praticable. This should dictate the protection methods to be applied.	The HCP Handbook states that, "…where adequacy of the mitigation is a close call, the record must contain some basis to conclude that the proposed program is the maximum that can be reasonably required by the applicant. This may require weighing the costs of implementing additional mitigation, benefits and costs of implementing additional mitigation, the amount of mitigation provided by other applicants in similar situations, and the abilities of that particular applicant." The modeling in the HCP demonstrates that there would be no appreciable reduction on the survival or recovery of the species due to Project-related take. Section 6.6 of the HCP (Issuance Criteria – Maximum Extent Practicable) describes how the HCP meets the "maximum extent practicable" criterion of the ESA. The USFWS's Biological Opinion and Findings and Recommendations documents will further evaluate how the HCP meets this criterion.
0030-1	The DHCP does not clearly explain how the proposed action area was determined. The action area should be delineated based on potential impacts to the Indiana bat (and possibly other species of concern). Determining the scope of an action area requires application of scientific methodology and the agency must explain the "scientific methodology, relevant facts, or rational connections linking the project's potential impacts" to the action area boundaries to enable a reviewing court to determine whether the action area was properly conceived.2 The DHCP's explanation of how the action area was delineated is scattered throughout the document and is described in vague language. Thus, it is difficult to determine whether the delineation is consistent with ESA regulations. The DHCP describes the action area of the Project as follows (emphasis added): [Page 1:] The Project will be situated within an approximately 32,395 hectares (ha; 80,051 acres [ac]) area that includes portions of Union, Wayne, Urbana, Salem, Rush, and Goshen Townships in Champaign County, OH (referred to hereafter as the Action Area; Figure 1-1).	The Action Area for this HCP has been delineated appropriately. 50 CFR §402.02 defines "Action area" as, "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." Within a set action area, all activities that can cause measurable or detectable changes in land, air, and water or to other measurable factors that may elicit a response in the species or critical habitat are considered. The action area is not limited to the footprint of the action and should consider the chemical and physical impacts to the environment resulting from the action. The action area is not delineated by the range of the species that would be impacted; rather, it is delineated by the impacts to the environment that would elicit a response in the species (see USFWS Consultation Handbook pages 4-15 through 4-17, USFWS 1998). Therefore, it would be inappropriate to delineate the action area based on where maternity colonies or home ranges of Indiana bats occur relative to the Project.

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	Within the Action Area, the permanent footprint (the area of permanent disturbance) for the entire Project will be no more than 52.5 ha (129.8 ac), or 0.16% of the total Action Area. Development of the Project will include installation of up to 100 wind turbine generators (turbines), each with a nameplate capacity rating of 1.6 megawatt (MW) to 2.5 MW, resulting in a total generating capacity of up to 250 MW. The Project will also include development of service roads, electricity collection lines, staging areas, and an operations and maintenance (O&M) facility. While only 52 turbine locations are known at this time, the HCP will address impacts to Indiana bats from the construction and operation of the full 100-turbine Project with expected lifespan of 30 years from construction through decommissioning (ITP Term; see Section 2.4 – ITP Duration). The location of the additional 48 turbines will not significantly change the net effect on the species and the level of authorized take described in this HCP will not be greater. [Page 4:] Though no known Indiana bat hibernacula are located within the Action Area, summer resident Indiana bats are known to occur within the Action Area and vicinity. Bat mist-netting surveys were conducted in the summer of 2008 within an area that included the current Action Area in Champaign County and an area to the north extending into Logan County ("initial study area"; see Figure 1-2). These surveys documented the presence of Indiana bats approximately 7.8 km (4.8 mi) to the north of the current Action Area. Two reproductive adult female and 1 non-reproductive adult male Indiana bats were captured as part of the 2008 survey. The initial study area was revised to be at least 8 km (5 mi) from the 2008 Indiana bat capture and roost locations and then further expanded, creating the current Action Area. The current Action Area also avoids caves supporting other species of bats (not Indiana bats) during hibernation (see Section 3.2.3 – Pre- Construction Bat Surveys Conducted). [Pages 165-166:] In the summer of 2008, during Tier 3 studies, a new summer colony of Indiana bats was discovered in the initial study area in Logan County. Based on this finding, in consultation with the USFWS, Buckeye Wind reduced the area of proposed turbine development to avoid potential impacts to Indiana bats (see Section 1.1 – Overview and Purpose of the HCP and Figure 1-2), resulting in the current Action Area. Because the Action Area was more than 8 km (5 mi) away from the nearest capture site for Indiana bats, it appeared that impacts to Indiana bats were sufficiently avoided and Buckeye Wind, in consultation with the USFWS and ODNR, made a decision to proceed with the Project within the current Action Area. Buckeye Wind then proceeded to develop an application for a CECPN for approval through the OPSB in 2008-2009. Despite thorough pre-planning, prior bat surveys within the Action Area that did not detect Indiana bats, due diligence, and ongoing consultation with the USFWS and the ODNR DOW, Indiana bats were unexpectedly discovered in the	The Action Area for this Project has been determined to be an area of 32,395 ha (80,051 ac), which includes areas where all construction, operation, and maintenance will occur. Additionally, areas surrounding the work areas will be indirectly affected by noise, vibrations, and impacts to surface water resources as described in the HCP. At the time of completion of the Draft HCP only the locations of 52 turbines were known, and an additional 48 were to be sited. The Action Area was designed to include the area where all direct and indirect effects of all 100 turbines would occur. The commenter has suggested that the HCP needs an additional section that includes an explanation that the northern area of boundary was drawn to be at least 5 miles from the 2008 capture and roost sites. It is also suggested that the HCP explain whether and how the proposed turbine locations, and the action area boundary in relation to the turbine locations, were re-adjusted based on the 2009 observations. First, the readjustment of the Action Area in 2008 was made in an attempt to avoid any impacts, direct or indirect, to the Indiana bat populations discovered in 2008. This point has been made in Section 6.1.1 of the HCP (Project Planning and Siting). Adjustments to the Action Area or turbine locations were not made specifically as a result of the 2009 Indiana bat observations. Section 2.5 has been added to the HCP (ITP Area), providing a more specific explanation of the Action Area.

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	Action Area in summer 2009. The discoveries were made in the northern part of the Action Area during mist-netting surveys conducted by another entity as part of site evaluations for an unrelated wind project. Due to these discoveries, Buckeye Wind determined that it was appropriate to enter into discussions with the USFWS to seek an ITP under Section 10 of the ESA. Furthermore, research (Arnett et al. 2010, Baerwald et al. 2009 and Good et al. 2011; see Table 6-1) indicates that specific avoidance and minimization methodologies are effective in reducing direct and indirect impacts to bats from wind projects, making it likely that an HCP could be developed that would allow the Project to be built while avoiding and minimizing impacts to Indiana bat populations. The following sections describe additional measures that will be taken by Buckeye Wind to avoid impacts to Indiana bats and where those impacts cannot be avoided, how they will be minimized and mitigated, to the maximum extent practicable. The DHCP should have a separate section titled "Action Area." Within this new section the DHCP should explain, among other things, that the northern boundary of the action area was drawn to be at least 5 miles from the 2008 bat capture and roost sites. The DHCP should also explain whether and how the proposed turbine locations, and the action area boundary in relation to the turbine locations, were re-adjusted based on the 2009 observations. The appropriate response to the capture and roost location data is to adjust the location of the turbine locations. Simply contracting the action area boundaries, without moving the locations of the turbines, is inconsistent with the definition of an action area. The DHCP should clarify how and whether the project footprint and turbine locations were adjusted in relation to the action area boundary in response to the data.	
0030-2	Comment 1.2. The Apparent Delineation of the "Action Area" of the Project in inadequate. A. Background ESA regulations define the term "action area" as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action."[3] The action area is not limited to the footprint of the action nor is it limited by the Federal agency's authority. Rather, it is a biological determination of the reach of the proposed action on listed species. Careful delineation and explanation of the chosen action area is important because the determination of the environmental baseline and cumulative effects are tied to the action area.[4] B. The Action Area Must, But Apparently Does Not, Include all Potential Impacts of the Project. The action area must be delineated such that it contains all of the direct and indirect effects of the proposed Project on Indiana bats. In other words, the action area is the entire area within which project-associated environmental effects are anticipated to occur; for instance, earth disturbance, habitat alterations, noise, flight path disruption, and physical harm. When delineating the action area of the Project,	The rationale for delineation of the Action Area is provided in the response to comment 0030-1, Section 2 of the EIS (EIS Scoping, Identification of Alternatives, and Public Consultation), and Section 2.5 of the HCP (ITP Area). The Action Area is not defined by the range of the species that would be impacted; rather, it is defined by the impacts to the environment that would elicit a response in the species (see USFWS Consultation Handbook pages 4-15 through 4-17, USFSW 1998). Therefore, it would be inappropriate to define the action area based on where maternity colonies or home ranges of Indiana bats occur relative to the Project. The commenter suggests that the Action Area does not include all of the direct and indirect effects of the proposed Project on Indiana bats. The Action Area was defined to include all areas directly and indirectly affected by the action, as per 50 CFR §402.02. A separate description of the direct and

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	the movement patterns of Indiana bats must be considered. With respect to physical harm and disruption of the flight path, Indiana bats may travel 5 miles or more between roosts and foraging areas, depending on habitat, prey availability, and other factors, and may forage across several miles.[5] Thus, roosting bats found less than 5 miles from the Project's turbines potentially will be impacted by those turbines during foraging and other movements. USFWS recommends in its 2011 Wind Energy Projects Guidance that the home range of an Indiana bat be delineated to include all suitable habitat within 5 miles of a capture location if only capture data are available; all suitable habitat within at least 2.5 miles of a single documented maternity roost tree; all suitable habitat within at least 2.5 miles of the line drawn between the two documented roost trees; and all suitable habitat within at least 2.5 miles of the center of the polygon created by connecting three or more documented roost trees.[6] To avoid and minimize incidental take, the applicant should seek to locate turbines and the remaining facility footprint outside of the home ranges of Indiana bats. If, however, any Indiana bat home ranges will intersect with turbine locations, if changes in habitat or habitat use may shift existing home ranges to intersect with turbine locations, or if new roost trees or colonies are likely to be discovered in the vicinity, the action area should be delineated to include those existing or potential home ranges. In short, using USFWS's recommended distances, while turbines should be located as far from roosts as possible, the action area should embrace any potential or observed roosts or capture sites within 2.5 or 5 miles, respectively, of a turbine because bats may be impacted by that turbine. The DHCP provides no indication of the biological significance of the action area boundaries and no indication that this significance was considered. For example, from Figure 1-1 in the DHCP it appears that some turbines will be located less than 2.5 miles from the boundary of the action area.[7] The action area boundary should be at least 5 miles from any turbine. If any maternity colonies or roost trees exist (potentially undetected) just across the boundary of the proposed action area and the home ranges of bats from those roosts or colonies overlap with turbines, then those bats, during their nightly activities, may be taken by those turbines (by physical harm, flight path disruption, noise harassment, etc.).[8] In fact, a roost tree found 1.5 miles outside of the proposed action area boundary in 2009 was the source of an adult female that was captured in the central portion of the action area.[9] If there is any chance that a colony or roost is less than 2.5 miles (or a bat capture less than 5 miles) from a turbine, that location must be included in the final action area.[10] Moreover, the integrity of any maternity colony across the proposed boundary but within 2.5 miles of a turbine may be affected by taking of bats that are sourced at that colony. A delineation of the action area that does not include observed or potential capture locations within 5 miles of a turbine, or colony or roost locations within 2.5 miles of a turbine, is not consistent with the regulatory	indirect effects of the action on the Indiana bat (including Indiana bats that occur in the action area during the maternity season as well as Indiana bats that only migrate through the action area during spring and/or fall) is included in Section 5.0 of the HCP (Impact Assessment). The Action Area as defined in the HCP is consistent with ESA regulations.

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	definition of an action area. The Project should first seek to avoid impacts to Indiana bats to the maximum extent practicable by locating the Project outside of the home ranges of bats. The action area should then be delineated to include those impacts to bats that cannot be avoided by such siting considerations. The HCP should evaluate the extent and timing of bat foraging, gathering, migration, and dispersal movements and should analyze how such movements influence the scope of Project impact and thus the delineation of an action area for the Project, as required by ESA regulations.	
0030-3	COMMENT 2.1. THE FIRST AND SECOND OBJECTIVES OF THE DHCP REFLECT CIRCULAR REASONING. A. Background The DHCP states the biological goal as follows: "The biological goals of this HCP are to minimize take of Indiana bats to the maximum extent practicable and to promote the health and viability of Indiana bat populations both locally and in the Midwest Recovery Unit (RU)."[11] The following comments refer to this draft goal regardless of its validity. USFWS's 5-Point Policy states, "In the context of HCPs, biological goals are the broad, guiding principles for the operating conservation program of the HCP. They are the rationale behind the minimization and mitigation strategies. For more complex HCPs, biological objectives can be used to step down the biological goals into manageable, and, therefore, more understandable units."[12]	This comment does not consider a critical portion of the EIS's stated purpose and need, which is to respond to Buckeye Wind's application for an ITP to authorize incidental take of Indiana bats. When devising alternatives for consideration in the EIS, the USFWS has to consider the ITP application submitted by Buckeye Wind, which is the proposed action and the reason the EIS is being completed.
0030-4	The Draft "Objectives" Are Inconsistent With USFWS Guidance. The first "objective" in the DHCP is to "[i]mplement an operational feathering strategy that will limit mortality of Indiana bats due to collision with turbines or barotrauma resulting from near collisions with moving blades to no more than 26 Indiana bats over any 5-year period beginning in any year in which more than the Expected Average Mortality of 5.2 Indiana bats is estimated, and not more than 130.0 Indiana bats over the 30-year ITP Term."[13] This statement is not a biological objective; rather, it is a restatement of the proposed alternative and, thus, reflects circular reasoning. According to USFWS's 5-Point Policy, "Conservation measures identified in an HCP, its accompanying incidental take permit, and/or IA, if used, provide the means for achieving the biological goals and objectives. . . . Biological objectives are the different components needed to achieve the biological goal such as preserving sufficient habitat, managing the habitat to meet certain criteria, or ensuring the persistence of a specific minimum number of individuals. The specifics of the operating conservation program are the actions anticipated to obtain the biological objectives[.]"[14] It is no surprise that the DHCP claims that the proposed alternative meets the first objective – the alternative and the objective have been entirely conflated. The proposed alternative to take no more than 26 bats in a 5-year period is	The USFWS's Five-Point Policy states that "The biological goals and objectives of an HCP are commensurate with the specific impacts and duration of the applicant's proposed action." That is, rather than being circular, the connection between the proposed action and the biological objectives is precisely the intended role of the biological objectives. Further guidance is gleaned from the Five-Point Policy, which states that "explicit biological goals and objectives clarify the purpose and direction of an HCP's operating conservation program. They create parameters and benchmarks for developing conservation measures, provide rationale behind the HCP's terms and conditions, promote an effective monitoring program and, where appropriate, help determine the focus of an adaptive management strategy." Accordingly, the biological objectives in the HCP are used as the basis for development of the conservation program, providing measurable targets needed to achieve the biological goal of the HCP and the regulatory issuance criterion. The Commenter states that, "…the HCP must, but does not currently, present valid biological objectives based on the needs of the Indiana bat and requirements for population persistence." One of the statutory criteria for ITP issuance is that the

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	not a biological" objective. Rather, it is a "management" objective. The first objective is not, but should be, based on the needs of the Indiana bat and requirements for population persistence. The second objective, which sets forth the mitigation plan, suffers from the same infirmity. Moreover, as will be discussed more fully in the comments below, the DHCP presents no evidence that the first objective (i.e., the proposed alternative) meets the goal of minimizing take of Indiana bats to the "maximum extent practicable" and promoting the health and viability of Indiana bat populations. If the HCP's biological goals are to be stepped down to biological objectives, the HCP must, but does not currently, present valid biological objectives based on the needs of the Indiana bat and requirements for population persistence. The biological objectives must be, but are not currently, differentiated from alternatives and management measures proposed as means to meet biological goals and objectives. In addition, the final choice of valid goals and objectives must be based on evidence referenced or explained in the HCP.	take resulting from the proposed activity, as described in the HCP, will not appreciably reduce the likelihood of survival and recovery of the species in the wild. The biological goals and objectives are used to help translate the statutory and regulatory criteria or standards into meaningful biological measures specific to this particular HCP and in a manner that will facilitate monitoring and adaptive management (HCP, page 10). The first biological objective is biologically meaningful because it limits take to that which would not reduce the long-term viability of the local maternity colony or Midwest RU when no effect of WNS is modeled. Additionally, under predicted WNS scenarios, the impacts of Project-related take are not anticipated to appreciably reduce the likelihood of survival of the local maternity colony or Midwest RU population (See Section 5.1.2.5 of the HCP [Biological Significance of Incidental Take [Collision Mortality]). Consequently, the first biological objective contributes to the biological goal of minimizing take of Indiana bats to the maximum extent practicable and to promote the health and viability of Indiana bats both locally and in the Midwest Recovery Unit. Based on that impact assessment, the biological goals and objectives clarify the purpose and direction of the conservation program as detailed in Section 6.0 of the HCP (Conservation Program). This clarification comes in the form of measureable parameters included in the biological objectives. The Commenter also states that "the biological objectives must be, but are not currently, differentiated from alternatives and management measures proposed as means to meet biological goals and objectives." As stated above, the connection between biological objectives and the management measures, or conservation program, is precisely the role of the biological objectives. To differentiate the biological objectives from the conservation program would directly contradict the purpose of developing biological goals and objectives. With input from the USFWS, the Applicant and the USFWS have developed the goals and objectives consistent with USFWS guidelines and with statutory requirements.
0030-5	COMMENT 2.2. THE FOURTH DRAFT OBJECTIVE REFLECTS UNSUPPORTED CONJECTURE. The fourth "objective" of the DHCP is to "maximize operational output of the project, such that the environmental benefits of wind energy are maximized, thereby reducing potentially harmful effects of other energy projects."[15] This "objective" has three major flaws. First, any suggested link between maximizing operational output of the Project and "maximizing the environmental	The commenter claims three major flaws associated with the fourth objective. First, the commenter claims that the link between maximizing operational output of the Project and "maximizing the environmental benefits of wind energy" or "reducing potentially harmful effects of other energy projects" is entirely unsupported conjecture. Section 1.3.1 of the HCP (Fossil Fuel Offsets and Reductions) provides evidence of the link. While it is true that the amount of offset depends on various

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	benefits of wind energy" or "reducing potentially harmful effects of other energy projects" is entirely unsupported conjecture. The DHCP presents absolutely no evidence or reasoning that maximizing output from this particular project will maximize the benefits of wind energy or lead to any reduction in energy production that causes climate change. That link depends on a multitude of economic and political factors at both a national and state scale that are highly uncertain. Second, this draft objective has the same infirmity discussed above – "maximizing operational output of the project" is not a "biological" objective but rather a "management" objective. Third, the DHCP presents no evidence that maximizing operational output meets the stated goal of minimizing take of Indiana bats to the "maximum extent practicable" and promoting the health and viability of Indiana bat populations.	economic and political factors, it is certainly reasonable to maintain that energy generated by wind energy facilities will necessarily offset energy generated from other sources. Table 1-2 of the HCP provides a reasonable estimate of the amount of offset, considering the generation mix most likely to be offset (based on the generation mix in Ohio, which is primarily coal-fueled). Second, the commenter claims that the objective is a "management" objective rather than a "biological" one. Besides the evidence that carbon emissions contribute to global climate change, which has been identified as a potential risk to Indiana bats (see USFWS 2007, Indiana Bat Draft Recovery Plan), Section 5.4 of the HCP (Potential Beneficial Effects of Wind Energy on Indiana Bats) provides a description of the beneficial effects on biological resources. Third, it is stated that, "the HCP presents no evidence that maximizing operational output meets the stated goal of minimizing take of Indiana bats to the "maximum extent practicable" and promoting the health and viability of Indiana bat populations." The objective recognizes that the greater the wind energy output, the greater the offset of other energy generation sources, and therefore, maximization of the potential beneficial effects of wind energy on Indiana bats as described in HCP Section 5.4. Increased output of wind energy promotes the health of Indiana bat populations by reducing the potentially harmful effects of emissions associated with other energy generation technologies. The fourth draft objective is supported by best available science and reasonable assertions based on known biological effects of carbon emissions.
0030-6	COMMENT 3.1. THE DRAFT ESTIMATE OF BASELINE TAKE OF INDIANA BATS IGNORES THE FORMAL UNCERTAINTY ANALYSIS OF THE RISK MODEL. Generally, incidental take is expressed as the number of individuals reasonably likely to be taken.[16] The DHCP's estimate of baseline anticipated take does not accurately reflect the results of the Bat Collision Risk Model ("Risk Model").[17] The real strength of the Risk Model, as discussed in Appendix A of the DHCP, is that it formally incorporates and considers uncertainty. As the authors indicate, the behaviors and risks that were sought to be captured in the Risk Model are highly uncertain. To reflect this high level of uncertainty, the modelers used a relatively simple model with ranges or distributions of parameter values. In describing the model approach, the authors state, "A probabilistic approach was used in this collision risk model that relied on either a range of values, or on a formal distribution for each model input, rather than a deterministic approach based on single-point estimates."[18] The authors	The commenter contends that the treatment of uncertainty included in the Collision Risk Model is not properly incorporated into estimates for baseline take of Indiana bats for the Project. The commenter takes issue with the fact that the inherent uncertainty of the model is collapsed into a single average number of bats. The commenter states that "when the inputs to a model are highly uncertain, as in this case, the best practice is to recognize and use the uncertainty in the resulting outputs" and suggests that the uncertainty in the results of the model outputs were "ignored." Improper treatment of uncertainty, the commenter claims, indicates that the estimated impact does not include best available science. First, the uncertainty of the model output was not ignored. Section 5.1.2.4.1 of the HCP (Collision Risk Model) includes a detailed discussion on the five primary components of the CRM and the

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	further describe in the discussion their approach to incorporating uncertainty in the model: The range of estimated mortality of Indiana bats reflects uncertainty around each of the model inputs: population size; flight height; the effect of temperature and wind speed on nightly activity; movements within the turbine array; and factors that lead to survival or mortality (e.g., avoidance or attraction). This uncertainty is evident in the disparity of values at the upper and lower edges of estimated mortality distributions (i.e., the 30th and 70th percentiles). A probabilistic approach was chosen for this model, using distributions for each model input derived from empirical data, derived data, or professional opinion to account for this uncertainty. This was preferred over using single-point estimates for each of the input parameters, which would have resulted in less variability, but also less confidence, in the model results.[19] As the authors recognize, this formal incorporation of uncertainty is the real strength of the model given the high level of uncertainty regarding the model inputs: The probabilistic approach used in this collision risk model represented a unique way of adapting the existing Bolker et al. (2006) model to fit the needs of a species whose behavior did not match that of migratory or nesting bird species. For each individual simulation (out of 100,000), the calculation of collision risk combined the average number turbine encounters for all possible flight directions and all possible flight heights (weighted by probability), along with a randomly- selected survival probability between 0 and 1 that varied among survival scenarios. By using distributions whose shapes were derived from available data on bats, Myotis species, or Indiana bats specifically, a reasonable range of uncertainty was encapsulated during each simulation, which likely captured the expected amount of mortality that would result from the proposed Project.[20] Thus, as stated by the authors in the last sentence above, the model results likely "capture" the expected amount of bat fatalities due to the Project, similar to how a confidence interval is said to capture the actual parameter value. Importantly, the modelers do not know which of the three survival scenarios modeled are more or less likely than the others. Each survival scenario represents a distribution of probabilities that a bat survives an imminent collision with a turbine rotor.[21] The authors state that "the actual chance of survival if an Indiana bat flies into the rotor swept zone of a turbine is unknown. . . . Three potential survival scenarios were created to both reflect uncertainty and to test the sensitivity of the model outcome . . . . It is important to reemphasize that factors leading to an Indiana bat surviving an encounter with a turbine (e.g., avoidance) are very poorly understood....By incorporating a distribution of survival probabilities over 3 different scenarios, it is expected that this method provides a reasonable and conservative estimation of the survival probability."[22] Although the modelers have more information on flight heights and may be able to reasonably surmise that the low flight height scenario is more likely than the high flight	uncertainty associated with each. The section describes how conservative estimates were made to minimize the risk that the CRM might underestimate impacts. Furthermore, the take request was established in 5-year increments to allow for some variability in annual take levels, which would help capture uncertainty in the model. For the ITP, it is necessary to select a specific quantity of take and evaluate the impacts of that take, and issue a permit, if appropriate. The USFWS cannot issue a permit for a range of take amounts. Second, the commenter suggests that the authors of the HCP should use the 70th percentile results for determining jeopardy and setting minimization and mitigation measures, rather than the average. No evidence is presented that the 70th percentile results more accurately reflect the best available science. Additionally, the jeopardy standard is not based on model results that estimate a quantity of take; rather the jeopardy analysis is based on how the anticipated take will affect the reproduction, numbers, and distribution of the population. Third, the adaptive management plan described in the HCP allows the Applicant to make adjustments to the conservation program based on results observed during monitoring. Adaptive Management is a primary risk management feature of the HCP process, allowing applicants and the USFWS to manage the uncertainty in a way that protects the species and the Project.The commenter further comments that "…if the estimated impact does not reflect the best available science then the estimated impacts of the Project on the viability of local maternity colonies and the Midwest RU population may be unrealistic." The HCP has used best available science and coordination with experts in the field to estimate impacts as closely as possible. The commenter's concern is addressed through the monitoring and adaptive management measures described in Section 6 of the HCP (Conservation Program). As discussed previously, the measureable biological objectives allow the Applicant to design a conservation program based on the estimated impacts of the proposed action. This will ensure that the impacts do not exceed the impacts estimated in Section 5 of the HCP (Impact Assessment). Since Adaptive Management will prevent actual impacts that exceed the estimated impacts, the HCP necessarily provides a realistic assessment of the impacts of take from the Project. Furthermore, the Applicant will be held to the take authorized in the ITP, which is the extent of the take analyzed in the Biological Opinion. The impact of the taking is based on the take number, not on how that number is derived. Therefore, the

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	height scenario, there is still a large amount of uncertainty regarding flight height, particularly of migrating Indiana bats.[23] Accordingly, the model results are expressed not as a deterministic estimate of bat fatality but rather as distributions of results, primarily for different scenarios of flight height and survival in different seasons. From these distributions, model results are summarized in terms of the median (i.e., 50th percentile), the 30thpercentile, and the 70th percentile. [24] The Risk Model results show that the median annual number of fatalities ranges from 3.46 to 36.82, depending on survival scenario and flight height scenario. The range of model results between the 30th and 70th percentiles, however, to a large extent "captures" the expected amount of bat fatalities due to the Project. This output of the Risk Model is presented in the DHCP as the best available science. Yet, despite the high level of uncertainty in collision risk and fatalities for Indiana bats, despite the authors' belief that the Risk Model provides a reasonable and conservative estimation of the survival probability based on its incorporation of a distribution of probabilities over different scenarios, despite the formal treatment of uncertainty in the Risk Model inputs and results, and despite the fact that this formal incorporation of uncertainty is the main strength of the Risk Model, the DHCP collapses all of the information about uncertainty contained in the results – information that was deemed essential to the modeling exercise – into a single average number (16.3 bats per year), which is then used to calculate expected annual take of Indiana bats by the Project.[25] This average is then reduced by another average calculated over the ranges of benefits of increasing cut-in speed found in three studies, to get a take estimate of 5.2 bats per year. This averaged result, or a number near to this result, could have been arrived at by selecting a deterministic model with deterministic input that represents the average of the input scenarios and values. The modelers chose to use a probabilistic model to incorporate the large amount of uncertainty and generate a range of results, and the authors of the DHCP then chose to ignore the important information in those results. It has been well recognized for many years that models that incorporate uncertainty provide more and better information in cases where uncertainty is pronounced, and many have called for the use of such models. The more difficult task is using the model output effectively to make decisions. When the inputs to a model are highly uncertain, as in this case, the best practice is to recognize and use the uncertainty in the resulting outputs. Why does ignoring the uncertainty in the results of the Risk Model matter for estimating baseline take of Indiana bats by the Project? First, the HCP's avoidance and minimization measures must be commensurate with the level of impacts indicated by the best available science. If the estimated impact does not reflect the best available science then the degree of avoidance and minimization initially required of the permittee may be insufficient to satisfy the	impact of the taking is realistic. While the commenter accurately describes some of the difficulties in addressing the inherent uncertainty of estimating Project related mortality of Indiana bat, the estimate of baseline take of Indiana bats as presented in the HCP does not ignore the uncertainty analysis of the risk model.

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	permit issuance criteria in the ESA regulations. Second, if the estimated impact does not reflect the best available science then the estimated impacts of the Project on the viability of local maternity colonies and the Midwest RU population may be unrealistic.[26] An accurate picture of the Project's impacts on population viability is essential for an accurate determination of whether the taking will appreciably reduce the likelihood of the survival and recovery of the species in the wild. Although the averaged estimated annual take of 5.2 bats per year may be a reasonable trigger point for adaptive management (the 30th percentile estimated take may be better for that purpose), the average of the Risk Model's 70th percentile results for annual fatalities of 38 bats per year [27] is a conservative but reasonable value to use for determining jeopardy and setting minimization and mitigation measures.[28] Use of the 70th percentile results is a simple way to use at least some of the information produced by this probabilistic model and capture a range of most likely outcomes.	
0030-7	COMMENT 3.2. THE DHCP'S EVALUATION OF THE IMPLICATIONS UNDER THE ESA OF A RAPIDLY DECLINING POPULATION INFECTED WITH WHITE-NOSE SYNDROME IS UNSUPPORTED. A. Background To issue an ITP, USFWS must find that a project's applicant will, to the maximum extent practicable, minimize and mitigate the impacts of the taking.[29] This is also part of the goal stated in Section 1.2 of the DHCP. An applicant for an ITP must first minimize take to the maximum extent practicable before it mitigates the remaining take to the maximum extent practicable.[30] "Jeopardize the continued existence of" means to engage in an action that "reasonably would be expected, directly or indirectly, to reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild by reducing the reproduction, numbers, or distribution of that species."[31] Typically, a jeopardy opinion is rendered "when the total of the species' status, environmental baseline, effects of the proposed action, and cumulative effects lead to the conclusion that the proposed action is likely to jeopardize the continued existence of the entire species, subspecies, or vertebrate population as listed."[32] USFWS's 2011 Wind Energy Projects Guidance discusses the analytical framework for jeopardy analysis, reproduced in part below: The definition [of jeopardy] directs us to evaluate whether a reduction in the likelihood of survival and recovery is expected. Reduction embodies the concept of a change, more specifically, a decrease. Likelihood implies a chance or probability of some event. Thus, we are directed to assess whether a decrease in the probability of survival and recovery is expected. Further, it is not just whether any decrease will occur; we must evaluate whether the magnitude of the anticipated decrease is "appreciable." Appreciable means noticeable, perceivable, or measureable.	The HCP has not determined that the Project cannot jeopardize the Indiana bat no matter how dire the populations' situation relative to WNS. Instead the HCP analyzes the impact of the take of approximately 5.2 Indiana bats per year, and not more than 26 bats over a 5-year period or more than 130 bats over a 30-year period. Section 5.1.2.5 of the HCP (Biological Significance of Incidental Take [Collision Mortality]) used the Leslie model (Leslie 1945) to analyze the impact of the take at the individual maternity colony level, and at the Recovery Unit level, and considered historic population growth trajectories and projected population declines due to WNS into the baseline of the analysis. This analysis demonstrates that, absent WNS, the proposed take will not preclude the existing maternity colonies onsite from surviving, therefore, the reproductive capacity of the maternity colony will persist. This analysis demonstrates that with WNS, the declines from WNS alone will likely drive the maternity colony to disappear within approximately 8 years, and that with both WNS and the Project, the maternity colony would disappear within approximately 7-8 years. This indicates that in the face of WNS, there is not an appreciable difference between the decline of the maternity colony with or without Project take. There is a maximum of one year between when the model predicts that the maternity colony would disappear with or without the Project. During this short amount of time, it is extremely unlikely that substantial actions could be taken to reverse the impact of WNS. To date, 6 years of intensive WNS research has occurred and no cure or treatment for WNS has been found. The Applicant has proposed an additional 50%

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	In pulling these three concepts together, our jeopardy analyses is then determining whether the anticipated reductions in the species' reproduction, numbers, or distribution (RND) would reasonably be expected to noticeably, perceivably, or measurably decrease the species' probability of survival and recovery. Analytical Framework for Jeopardy Analyses * * * The end product of a section 7 effects analysis is a description of the type and magnitude of response bats will exhibit upon exposure to an action and any associated environmental stressors. Among others, biological responses include startle, alarm, flee, avoid, abandon/ displacement, reduced feeding success, reduced growth, reduced reproductive success, reproductive failure, and mortality. Once the anticipated response is determined, we are poised to assess the consequences such responses pose for the species, i.e., complete a jeopardy analysis. The framework below describes a sequential process for conducting jeopardy analyses. First, we evaluate how the individual responses will affect the fitness of those individuals (Step 1 in the schematic below). The fitness of an individual is measured by its annual and lifetime reproductive success and its survival likelihood. For example, if we determined that Indiana bats are likely to abandon a foraging area upon exposure to the proposed action, we must determine how such a response affects the lifetime reproductive success and survival likelihood of the individuals exposed. If no reductions in individual fitness are anticipated, then the analysis is complete and the action agency has insured that its action is not likely to jeopardize the continued existence of the Indiana bat. If reductions in fitness are anticipated, in the next step (Step 2) we evaluate how changes in the fitness of the individuals affect the fitness of the population to which those individuals belong. The fitness of a population (i.e., its reproductive success and survival probability) is a compilation of the fitness of each of the individuals and the number of individuals comprising the population1. For the Indiana bat, a "population" is typically a maternity colony, a congregation of swarming bats, or a congregation of bats in a hibernaculum, and hence, we are evaluating how the fitness of the maternity/swarming/winter colony will be affected by the collective reduction in survivorship and reproduction of the individuals exposed to the proposed action. Specifically, we are analyzing how the reductions in individual fitness affect the population's abundance, reproduction, growth rates, or variance in these measures to make inferences about the population's future reproductive success (if applicable) and its viability. If no reductions in the maternity/swarming/winter colony fitness are anticipated, we conclude that the agency has insured that their action is not likely to jeopardize the continued existence of the Indiana bat and our analysis is completed. If, however, we cannot show that reductions in	reduction in take as a further measure to address the uncertainty of the impacts that WNS will have on regional and local populations. As the HCP provides, the impacts of the Project are not expected to reduce local or regional populations to low or non-viable levels appreciably sooner than without Project take without the 50% reduction. Therefore based on the results of the Leslie model the take associated with the Project will not appreciably reduce the likelihood of survival and recovery of the species in the wild. Further, the mitigation proposed will offset the impacts of the taking, as described in the HCP. The USFWS will further evaluate the impact of the taking within the BO.

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	the population's fitness are unlikely to occur, we evaluate the impact of such reductions in population fitness will reduce the likelihood of both survival and recovery of Indiana bat range wide by impacting its RND. As the recovery plan designates recovery units (RUs), this next step (Step 3) looks at how the reductions in population fitness affects RND of Indiana bats within the affected RU and how these effects on RND affect the likelihood of both survival and recovery of Indiana bats in the RU. To understand the consequences of population-level reductions in fitness, we need to identify the RND needs of Indiana bat at the RU level, i.e., what is needed in terms of RND to ensure the species is no longer in danger of extinction or to become endangered within the foreseeable future in the RU (henceforth, referred to as conservation needs). . . . Our analysis in this step evaluates how the population-level effects influence the likelihood of progressing towards or maintaining the conservation needs.[2] If the population-level risks do not noticeably, detectably, or perceivably reduce the likelihood of progressing towards or maintaining one or more of the conservation needs, then the action is not likely to appreciably reduce the likelihood of both survival and recovery of Indiana bat within the affected RU(s), and our analysis is completed. If population-level risks appreciably reduce the likelihood of progressing towards or maintaining these conservation needs in the RU, then the likelihood of both survival and recovery of Indiana bats in the RU will likely be appreciably reduced, and we need to complete a fourth and final analysis. In Step 4, we evaluate whether such reductions in RND within the RU will reduce appreciably the likelihood of both survival and recovery of Indiana bat range wide. As explained in the recovery plan, the RUs are designed to preserve sufficient representation, redundancy, and resiliency to ensure the long-term persistence of Indiana bat. It then follows that an appreciable reduction in the likelihood of both survival and recovery of Indiana bats in any one RU will reduce the representation, redundancy, and resiliency of the species range wide and will therefore inherently cause an appreciable reduction in the likelihood of survival and recovery of the Indiana bat rangewide.33 B. The DHCP's Conclusion That the Project Cannot Jeopardize the Indiana Bat No Matter How Dire the Circumstances and the DHCP's Response to White-Nose Syndrome Are Inconsistent with the ESA. The DHCP discounts the possibility that the Project could jeopardize the Indiana bat – that is, reduce appreciably the likelihood of both the survival and recovery of a listed species in the wild – even in dire circumstances of a rapid decline toward extinction caused by an outbreak of White-Nose Syndrome ("WNS").[34] The results of the Leslie Matrix model show that the combined impacts to the Midwest RU population of the Project and WNS together drive the population to near extinction within 25 years.[35] According to the DHCP's logic, the incremental effect of the Project on the species' decline would be relatively small	

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	compared to the large effect of WNS, so the Project cannot jeopardize the population: "Based on these modeling results, Indiana bat populations at both the maternity colony and Midwest RU levels will not be reduced to low or non-viable levels appreciably sooner with impacts from Project-related take than without it . . . ."[36] The DHCP then commits to reducing requested take by 50% if the Indiana bat population is reduced to 50% of pre-WNS levels.[37] There are two problems with the DHCP's analysis. First, according to the DHCP's logic, USFWS would and should authorize take of an endangered species by a project no matter what the status of the species – no matter how dire its circumstances – so long as the project's take is small relative to other causes of decline. This logic is inconsistent with ESA regulations and guidance on jeopardy. This logic is also inconsistent with statements in other parts of the DEIS and DHCP, which correctly point out that the significance of take increases as the status of the species becomes increasingly dire. The DHCP states, "[A]s the population declines, each individual becomes more valuable to the population as a whole."[38] Similarly, the DEIS states, "Although population numbers in this RU are still seemingly high, given the extremely rapid rate at which WNS has spread over just 3 years, and the high mortality rates observed in the Northeast RU, population reductions of all cave bat species as a result of WNS in the Midwest RU are expected to increase . . . which makes additional mortality from other sources (i.e. wind power) even more significant."[39] The DEIS also states, "If the Midwest RU Indiana bat population or other cave bat populations were substantially reduced as a result of WNS or other causes, the projected level of mortality resulting from wind turbines could have greater implications for the viability of the population and the cumulative effects of this Project and past, present, and reasonably foreseeable actions considered in this analysis could result in significant effects to the Indiana bat or other cave bat population size or distribution."[40] When a species is spiraling toward extinction, the loss of even a single individual may be highly significant.[41] Moreover, the application of the word "appreciably" in the regulatory definition of jeopardy depends on the status of the species or population.[42] The DHCP, however, ignores the possibility that this Project's take could "reduce appreciably" the likelihood of both the survival and recovery of the Indiana bat if the population was headed for extinction within a matter of two or three decades. The DHCP's apparent conclusion is that because the Midwest RU population would be rapidly heading for extinction without the Project, then USFWS may as well authorize take from the declining population. Of course, most every other project in the Midwest RU could and would make the same claim. It would be more reasonable to conclude that under such dire circumstances USFWS would find that the level of take proposed in the DHCP, and the resulting downward trajectory of the Midwest RU,[43] would indeed "appreciably" reduce the likelihood of both the survival and recovery of the Indiana	

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	bat. At a minimum, the DHCP should take a hard look at this issue and make a reasoned assessment rather than blithely assume that the status of the Midwest RU would have no effect on the jeopardy analysis for the Project. Second, the DHCP's plan is to reduce the requested take of Indiana bats by the same percentage of the population decline due to WNS – i.e., a 50% decline in the Midwest RU would trigger a 50% reduction in requested take. This is an overly-simplistic response, which is not consistent with the justification for the response stated in the DHCP – i.e., that 50% fewer Indiana bats will be exposed to risk because of the assumed linear relationship between overall population decline and the number of bats exposed to wind turbines in this particular action area; that the adaptive management plan will kick in if that assumption is determined to be wrong; and that "each individual becomes more valuable to the population as a whole."[44] In the absence of the last factor, the 50% reduction in requested take might be a reasonable response to a 50% drop in the Midwest RU population, if the simplistic assumption used – that reductions in bats at the hibernacula have a uniform effect on all maternity colonies and all summer use areas – holds up to evidence. But the DEIS and DHCP repeatedly and correctly point out that the significance of take increases as the status of the species becomes increasingly dire.[45] Thus, a 50% reduction in the Midwest RU population should trigger not only a reduced request of the take limit (due to fewer bats encountering turbines) but also additional minimization and mitigation measures to account for the increased significance of the remaining population and of take from that population. This consideration should be, but has not been, considered or discussed in the DHCP. This issue is discussed in Section 7 below in the context of adaptive management.	
0030-8	COMMENT 4.1. THE ALTERNATIVES STUDIED IN THE DEIS DO NOT CONSTITUTE A REASONABLE RANGE OF ALTERNATIVES. A. Background The EIS must "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated."[46] Consideration of alternatives is "the heart of the environmental impact statement."[47] The stated goal of a project dictates the range of "reasonable" alternatives and an agency cannot define its objectives in unreasonably narrow terms. Project alternatives derive from an EIS's Purpose and Need section. Thus, courts begin their evaluation of the alternatives by determining whether or not the Purpose and Need Statement is reasonable and then evaluate whether the range of alternatives based on the purposes and needs is reasonable.[48] Courts review an EIS's range of alternatives under the "rule of reason." Under the rule of reason, the EIS need not consider an infinite range of alternatives, nor is the agency required to undertake a separate analysis of alternatives which are not	Thank you for your comment.

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	significantly distinguishable from alternatives actually considered or that have substantially similar consequences, nor must the agency analyze remote and speculative alternatives. But the EIS must consider reasonable or feasible, and non-duplicative alternatives. The existence of a viable but unexamined alternative renders an environmental impact statement inadequate.[49] The agency has a duty to study all alternatives that appear reasonable and appropriate for study, as well as significant alternatives suggested by other agencies or the public during the comment period.[50] The touchstone for the inquiry into the range of alternatives is whether an EIS's selection and discussion of alternatives fosters informed decision-making and informed public participation.[51]	
0030-9	B. The DEIS Does Not Consider a Reasonable Range of Alternatives. USFWS determined that an EIS is necessary to evaluate the Applicant's Project for two reasons. First, the Project's effects are uncertain and require more thorough analysis, including the impact to federally listed species. Second, the Project will receive one of the first ITPs for Indiana bats associated with a wind facility.[52] The implications, therefore, of granting the ITP and approving the Applicant's HCP are significant for future wind project development. This HCP could potentially set the standard for avoidance, mitigation, and monitoring techniques as well as provide an opportunity to improve research and data collection on bat, bird, and wind turbine interactions. Under NEPA, an agency's statement of "purpose and needs"[53] is important both for context and "to provide the framework in which 'reasonable alternatives' to the proposed action will be identified."[54] USFWS's guidelines define purpose as "a goal or end to be obtained" and needs as "a lack of something required, desirable, or useful."[55] The definition of needs further elaborates that "[n]eeds help define and design alternatives."[56] With respect to the proposed Project, the DEIS states the purposes of the action as follows: The purposes for the proposed action and preparing this DEIS are to: • Respond to Buckeye Wind's application for an ITP for the federally endangered Indiana bat related to Project activities that have the potential to result in take, pursuant to the provisions of section 10(a)(1)(B) of the ESA, as amended, and its implementing regulations (50 C.F.R. part 17.22(b)(1)) and policies. • Protect, conserve and enhance the Indiana bat and its habitat for the continuing benefit of the people of the United States (U.S.). • Provide a means and take steps to conserve the ecosystems depended on by the Indiana bat. • Ensure the long-term survival of the Indiana bat through protection and management of the species and their habitat; • Ensure compliance with the ESA, NEPA, and other	The USFWS disagrees with this comment. This comment ignores a critical portion of the EIS's stated purpose and need, which is to respond to Buckeye Wind's application for an ITP to authorize incidental take of Indiana bats. When devising alternatives for consideration in the EIS, the USFWS has to consider the ITP application submitted by Buckeye Wind, which is the proposed action and the reason the EIS is being completed. The EIS evaluates a range of reasonable alternatives that are feasible and non-duplicative. All alternatives include the use of feathering and cut-in speed regimes, measures which have been proven to reduce bat fatalities at wind power facilities. The range of alternatives includes a no action alternative, the proposed action (as described in the HCP), and alternatives that are more and less restrictive than that proposed in the HCP, which would result in fewer and greater impacts to Indiana bats, respectively. Siting of turbines is constrained by where the Applicant has leases, where winds are sufficient to generate power, where mandatory setbacks exist (e.g., residences, roads, property lines), and many other factors. Further, Indiana bats may move across the landscape over the 30-year operational life of the project; therefore, turbine siting alone was not considered a viable alternative. The alternatives considered apply a biologically-based approach to reducing take using proven avoidance measures (feathering and cut-in speeds).

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	applicable Federal laws and regulations.[57] The DEIS's statement of need provides in relevant part as follows: Commercial wind facilities have been shown to cause high numbers of bat fatalities in many locations. There is a need to ensure that take of Indiana bats is avoided and minimized to the maximum extent practicable and to ensure that the impact of any remaining take is fully mitigated. There is also a need to protect the habitat of Indiana bats including their maternity trees, swarming areas near hibernacula, and nearby foraging and roosting habitat.[58] The goals of the DEIS are thus two-fold: to minimize take of Indiana bats to the maximum extent practicable and to protect the habitat of Indiana bats. Given that the "stated goal of a project necessarily dictates the range of 'reasonable' alternatives,[59] the DEIS's broad statement of purpose and need allows for the consideration of a wide range of alternative project designs, siting, and operations, mitigation schemes, and adaptive management programs. That said, there are three fatal problems with the range of alternatives considered by USFWS in the DEIS. First, USFWS chose to focus on a set of alternatives rooted in operational adjustments only. Second, reasonable alternative siting schemes for the wind turbines, such as omitting turbines from Category 1 habitat, were not analyzed. Third, as will be discussed in greater detail in Section 5 in the context of the DHCP, even the set of operational alternatives that is considered is not a reasonable range of alternatives; the considered set omits reasonable and feasible alternatives that the best available science shows can better meet the DEIS's purposes and needs. These flaws in the alternatives analysis are especially egregious given that this EIS is in the context of ITP approval. CEQ guidelines state that for an EIS prepared in connection with an application for a federal permit or approval, "the emphasis is on what is 'reasonable' rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative.[60] USFWS's guidance on NEPA states that "the EIS...shall include an alternative comprising the proposed action, a no action alternative, and reasonable alternatives that satisfy the purpose and need(s), to the extent practicable."[61] The alternatives chosen for detailed study must therefore represent a range of options that satisfy, to varying degrees, the purpose and need of USFWS: protection of the Indiana bat and the Indiana bat's habitat. Although the number of options the agency must consider is "bounded by some notion of feasibility,"[62] it "may not limit itself to only one end of the spectrum of possibilities."[63] Courts have held that "the evaluation of alternatives is to be an evaluation of alternative means to accomplish the general goal of an action."[64] In the context of species protection, a number of possibilities exist, including administrative or regulatory means, project siting changes, operational adjustments, and mitigation and adaptive management schemes. Each category may then be further expanded upon, and every	

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	option identified will have its own advantages and disadvantages. It is the purpose of the EIS to highlight the environmental advantages and risks of a given project and evaluate them objectively to best determine which meets the needs of the agency, as written in its purpose and need statement.[65]	
0030-10	C. The DEIS's Rejection of Reasonable Alternatives from Detailed Study Is Unjustified. Rather than compare and contrast alternate means of accomplishing the agency's objectives of protecting the Indiana bat through avoidance, minimization, and mitigation, USFWS narrows its analysis to one type of potential measure – operational adjustments. This does not represent a selection of reasonable and feasible alternatives from which the agency can thoroughly examine the environmental risks of the Project. USFWS identified several categories within which alternatives could be created but chose to pursue operational adjustments only. Although the DEIS briefly discusses the elimination of the other categories of potential alternatives from detailed study, it does not offer explanations why those would not meet the agency's goals, rather than the Applicant's goals. An "agency cannot restrict its analysis to those 'alternative means by which a particular applicant can reach his goals.'"[66] CEQ guidelines state that for an EIS prepared in connection with an application for a federal permit or approval, "the emphasis is on what is 'reasonable' rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative."[67] Furthermore, "[n]either NEPA nor the CEQ regulations make a distinction between actions initiated by a Federal agency and by applicants," and "[r]easonable alternatives include those that are practical or feasible from the technical and economic standpoint and using common sense rather than simply desirable from the standpoint of the applicant."[68] The elimination of the three other alternatives narrows the set of alternatives unreasonably and does not leave a reasonable range of alternatives. "A viable but unexamined alternative renders an EIS inadequate."[69] USFWS rejected the following alternatives from detailed study: a shorter ITP term, an alternate location in Ohio, and reduced number of turbines.[70] Each of these rejections is now discussed in turn.	The EIS evaluates a sufficient range of alternatives including use of feathering, various cut-in speed regimes, and full curtailment at night, measures which have been proven to reduce bat fatalities at wind power facilities. Alternatives were dropped from further consideration because they were not technically or economically feasible or because they did not meet the goals and objectives of the HCP. Further explanation is provided below for why various different alternatives were not carried forward for further analysis, and the appropriate section of the EIS has been revised.
0030-11	Shorter ITP Term The DEIS explains the rejection of a shorter ITP term in part as follows: "[T]he Applicant determined that Project funding would be severely hampered by an ITP term that is shorter than the operational life of the Project."[71] This statement says nothing of the USFWS's opinion on feasibility or practicality, and only repeats the Applicant's opinion. Rather than accept the Applicant's assertion that investment would be "severely hampered," USFWS should test that presumption.[72] We challenge the claim that investment in wind power facilities would be severely hampered if permit terms were not multi-decade. The most critical factors in renewable	The description of the covered activities includes the construction, operation, maintenance, and decommissioning of the wind Project. This includes operation for up to 25 years. ITPs are not "long term relief from accountability," rather they require continued monitoring and adaptive management throughout the life of the permit to ensure that take would not be exceeded, and consideration of and responses to a variety of potential changed circumstances over the course of the permit. Consistent with the HCP regulations at 50 CFR 17.22(b)(4), the USFWS must ensure that the duration of permits "shall be sufficient to

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	energy investment are federal subsidies such as the Production Tax Credit and the Investment Tax Credit. As (Buckeye's parent) EverPower's CEO said in 2011, "Without a tax credit, you will not see new construction of wind farms." Testimony given before Congress in 2009, by Timothy J. Richards, General Electric's Managing Director of International Energy Policy, was to the same effect. While Richards certainly identified "time horizons in decades" as a factor that distinguished renewable energy projects, the changes he asked Congress to make included tax credits and other subsidies of increased length and predictability, favorable trade policy, and the adoption of binding renewable energy standards. He made no mention of increasing the term of environmental permits. This is not to say that energy developers would not like to be free of environmental permitting issues. Every risk they can eliminate or mitigate is an advantage to them. Buckeye Wind would certainly be very happy not to be accountable if it turns out that it miscalculated the risk of building a wind farm in Indiana bat habitat – a very real possibility in the dynamic context of climate change and White-Nose Syndrome. But the duration of an Indiana bat incidental take permit is simply not anywhere near the top of a full list of risks that Buckeye Wind faces. And it would be unwise and inconsistent with the purpose of the ESA to provide long-term relief from accountability in present circumstances. With respect to the assumption that the timeframe of renewable energy projects requires permits of 20 years or more because potential investors require certainty for that period of time, we have already commented that incidental take permits are nowhere near the top of any investor's list of risk factors. Further, it is a mistake to conclude that because the project has a planned life of decades, most potential investors in the project have a similar time horizon. Terra Firma Capital Partners Limited, which is the parent of Buckeye Wind's parent company, states in its public materials that the average duration of its investments is five years. Even assuming that Buckeye Wind has, needs, or will seek additional bank financing, the availability and cost of that financing is relevant. Interest rates will vary depending on perceived risk, but the duration of an ITP, if an ITP is properly available, is highly unlikely to have a significant effect on the overall risk profile of the project. Once the project is operational, the owners of Buckeye Wind may begin to look for a new owner that will operate it over the long term. Again, of the many variables and risks that will affect the market for such sales, the duration of an ITP (again, assuming an ITP is properly granted in the first place) is highly unlikely to be anything other than a very minor one. In a carefully and responsibly planned project that actually ought to move forward because it has been developed and located to minimize harm to the bat, the risk posed by the permitting process and the duration of the permit to investments in the project will be an insignificant one. Eliminating that risk – a small one in the universe of risks	provide adequate assurances to the permittee to commit funding necessary for the activities authorized by the permit, including conservation activities and land use restrictions." Further, consistent with the USFWS's Five-Point Policy, the USFWS considers several factors in determining the term of an incidental take permit. USFWS, for instance, takes into account the expected duration of the activities proposed for coverage and the anticipated positive and negative effects on covered species that will likely occur during the course of plan implementation. USFWS also factors in the level of scientific and commercial data underlying the proposed operating conservation program, the length of time necessary to implement and achieve the benefits of the operating conservation program, and the extent to which the program incorporates adaptive management strategies. With the Buckeye Wind HCP, inclusion of adaptive management and changed circumstances addresses the need for flexibility over the long-term, should assumptions (ex., the effectiveness of specific cut-in speeds) be proven inadequate or the status of the species (ex., white nose syndrome) change. The Applicant has stated that it would be difficult to obtain financing for the Project if only a portion of the operational life was addressed in the permit. While the Commenter asserts that the term of environmental permits is not a critical factor in renewable energy investment in general, the Applicant asserts that such uncertainty would discourage investors given the significant operational implications of the HCP and the legal liabilities of non-compliance with the ESA, the potential to have the ITP expire in the middle of the Project life creates very difficult uncertainties for investors. Therefore, financing could be extremely difficult to obtain. The USFWS considered the expected operational lifespan of the facility, the project land easement terms, and the funding commitment required of the applicant to construct the facility, in light of the guidance on duration of permit in 50 CFR 17.22(b)(4) and the USFWS's Five-Point Policy. Further, the USFWS considered the expected duration of the activities proposed for coverage, the effects on covered species, the data available to support the avoidance and minimization measures proposed, the length of time necessary to implement mitigation plans, and the rigorous monitoring and adaptive management plan After considering all of the above factors, the USFWS has independently determined that a 30-year ITP term is appropriate. The USFWS did not eliminate this alternative from further consideration solely based on commercial or economic feasibility. The USFWS determined that a shorter ITP term would not be a reasonable alternative based on the following considerations:

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	Buckeye Wind faces – by issuing a long-term permit with no surprises assurances may on the other hand entail significant risk to the survival and recovery of the Indiana bat. Buckeye Wind simply does not need an ITP of a duration that matches the term of the project, a duration that is unjustified given the uncertainties facing the Indiana bat. Permits of shorter duration are not only more consistent with the ESA's commitment to conserve Indiana bats, they are also entirely consistent with the goal of promoting responsible renewable energy development. USFWS's dismissal of an ITP term alternative also begs the question why other ITP renewal strategies were not explored. If, for example, a streamlined 5-year ITP renewal process were proposed that achieved investor confidence but still provided USFWS with a mechanism by which it could incorporate new mitigation measures, this would certainly be a reasonable alternative to a 30-year ITP. A streamlined renewal process for 5-year ITPs would allow for the incorporation of newly-gathered Indiana bat population data and the implementation of better-studied operational measures. Moreover, if the feasibility of an alternative is central to its rejection, USFWS should have likewise rejected Alternative A, the Maximally Restrictive Operations Alternative, given that the Applicant asserts it would not be commercially viable. USFWS is thus acting inconsistently in its choice of alternatives. On the one hand, it uses economic infeasibility to eliminate an alternative, but on the other hand, it ignores economic infeasibility in selecting another alternative for detailed study.	the expected operational lifespan of the wind energy facility, project land easement terms, financing concerns, the proposed adaptive management, and the proposed conservation program. On the other hand, USFWS could not determine whether the Maximally Restrictive Alternative was a reasonable alternative without a more detailed analysis, and that is why this alternative was carried forward.
0030-12	Alternate Location in Ohio USFWS's justification for eliminating an alternative location in Ohio from further study rests on two assertions. First is the assertion that the "[p]roposed location provides adequate wind resource and technical feasibility" and "moving the project may still put Indiana bats at risk in Ohio."[73] Notwithstanding the possibility that the risk of harm "could be greater or lower"[74] than the Project's current proposed location, USFWS concludes that since Indiana bats may be present throughout Ohio, moving the project to a different area in the state "would not necessarily reduce the likelihood that Indiana bats would be affected."[75] This is faulty reasoning and does not demonstrate that the agency is taking a hard look at identifying a range of reasonable alternatives to the Proposed Action. The purpose of an EIS is to assess risk; therefore, to abandon a reasonable alternative because the risk is unknown is inconsistent with the purpose of preparing the EIS in the first place.[76] If, as USFWS itself notes in the DEIS, the risk to the Indiana bat could be lower at an alternate location, then that alternative falls squarely within the framework of the DEIS's statement of purpose and need – that is, "to ensure that take of Indiana bats is avoided and minimized to the maximum extent practicable." The second assertion for eliminating the alternate location	The USFWS did not consider alternative locations in Ohio as a possible alternative because siting of wind power facilities is a complex and technical process that is constrained by a number of factors including wind regime, ability to obtain land leases, proximity to the electrical grid, capacity of the grid to accept additional power, mandatory setbacks (e.g., from residences, roads, property lines, etc.), and many other factors. Buckeye Wind has conducted multiple years of study to select the proposed Project location based on these factors, and has received state siting certificates (or is in the process for doing so) for the Project, and has submitted an HCP and permit application for a wind Project within the delineated Action Area. Therefore, the USFWS is evaluating the permit application. It is beyond the scope of the analysis for the USFWS to evaluate other possible areas of the state where wind power could be developed. It is not technically or economically feasible for the USFWS to fully evaluate the entire state for areas that are appropriate for wind power development.

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	option is that "the Applicant asserts that it is not practical or financially feasible to fully develop a commercially viable alternate location."[77] This rationale is at odds with CEQ's guidance on what constitutes reasonable alternatives. Again, CEQ guidelines provide that "the emphasis is on what is 'reasonable' rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative."[78] That the Applicant does not want to "double the effort and financial expenditure required to develop a single Project"[79] is not sufficient justification for failing to study an alternative that could present less risk to the Indiana bat and to its habitat while still promoting renewable energy and helping achieve Ohio's wind development goals. If wind resource potential and power infrastructure in eastern Ohio is even somewhat comparable to wind resource potential in western Ohio, and risk to the bat may be lower in eastern Ohio, then this alternative should certainly be further studied and explored as part of the NEPA process. The DEIS should take a broad look at the State and evaluate whether concentrating wind facilities in other parts of Ohio could substantially reduce the take of Indiana bats. The DEIS should explain the reasons for which western Ohio was chosen and describe whether wind resource potential, power infrastructure, and Indiana bat habitat in all Ohio regions are comparable. If the agency's goals are to protect Indiana bat habitat and avoid the take of Indiana bats, siting is critical to the accomplishment of those goals. An alternate location is therefore well within the range of reasonable alternatives that USFWS should explore in the EIS.	
0030-13	In fact, evidence presented in the DEIS suggests that the Project's current location in Ohio is in conflict with USFWS guidelines. The DEIS states that the Applicant followed the Service Interim Guidance on Avoiding and Minimizing Wildlife Impacts from Wind Turbines [80] and suggests how the Applicant incorporated the recommendations. The first bullet point provides as follows: Avoid placing turbines near known bat hibernation, breeding, and maternity/nursery colonies, in migration corridors, or in flight paths between colonies and feeding areas. The Applicant commissioned several bat studies (i.e., mist netting, acoustic detection, radar, and swarming studies) to determine the location of any bat hibernacula, maternity colonies, migration corridors, and flight paths in the Action Area . . . A Habitat Suitability Model and collision risk model (Appendices B and A of the HCP, respectively) for the Indiana bat was developed based on the Indiana bat survey results for the Action Area, other Indiana bat studies conducted in the Action Area vicinity, and the habitat in the Action Area in order to determine areas where impacts to this species would mostly likely occur.[81] In a preceding section of the DEIS, USFWS presents a map of Indiana bat summer records (Figure 4.5-2) and a map of Indiana bat migration records (Figure 4.5-3).[82] Both maps, but particularly the migration records map, defies the above-quoted language. Figure 4.5-3 shows Indiana Bat	Figure 4-6 in the HCP shows summer and winter band returns for Indiana bats. The lines connecting the summer and winter band returns are lines connecting summer captures with winter captures of the same individual. These are not "migration paths" in that bats have not been documented flying these routes through the Project area. The Guidelines referenced are voluntary, and are not ESA-specific; rather they generally apply to all birds and bats. ESA specific regulations exist for addressing projects that may take an ESA listed species. The HCP and the ABPP both include specific avoidance, minimization, mitigation, monitoring, and adaptive management measures that Buckeye Wind will take to reduce the likelihood and magnitude of impacts to bats and birds including the Indiana bat. The USFWS has never "deemed this location appropriate," rather we have received a permit application and are evaluating it.

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	Migration Records from 1971 to 2010 and identifies the Action Area as directly in a bundle of migration paths.[83] The eastern half of Ohio as well as the far western portion of Ohio, on the other hand, shows few migration paths. The siting of the Project directly in a major Indiana bat migration corridor cannot constitute avoidance as stated in the USFWS guidelines, particularly when the available data show many other locations in Ohio not in a migration path. Furthermore, the DEIS explains that mist-netting and habitat surveys conducted in 2008 and 2009 indicated the presence of Indiana bats and 43 roost trees in Bellefontaine Ridge, an area overlapping the northern portion of the action area. These surveys took place early in project planning; yet, rather than pursue other locations for project development, the Applicant chose merely to redesign the wind facility. The sufficiency of these mitigation measures is questionable, and USFWS guidelines certainly indicate that relocation is a more desirable alternative. Given the strong evidence of Indiana bat activity in and around the proposed action area, it is confounding that USFWS continues to deem this location appropriate and maintains that the Project's siting design eliminates take of Indiana bats and Indiana bat habitat to the maximum extent practicable.[84]	
0030-14	3. Reduced Number of Turbines Even if the Project's current location were as suitable as any other location in Ohio, reasonable alternatives still exist for turbine siting at the chosen location. The DEIS states that reducing the number of turbines would not provide "a sufficient level of associated environmental benefits" since "the presence of even one turbine still poses some level of risk to Indiana bats."85 This statement does not, however, preclude USFWS from investigating an alternative to the project's current siting design. The proposed action area is segmented into habitat categories, with Category 1 encompassing land deemed most suitable as Indiana bat habitat and Category 4 encompassing land deemed least suitable for the Indiana bat. Even if the presence of just one turbine poses a risk to the Indiana bat, the location of that one turbine in the most suitable Indiana bat habitat likely poses a greater risk than the location of that one turbine in the least suitable Indiana bat habitat (if, that is, habitat suitability is a good predictor of bat use – see Comment 5.1). No explanation is provided to inform the reader why up to 10 turbines may be placed in Category 1 habitat rather than no turbines. If the Applicant is taking steps to minimize the project's impact to Indiana bats via siting, it is unclear why Category 1 habitat – those areas most suitable for the Indiana bat's roosting and foraging activities – was not entirely avoided. USFWS should explain what parameters and criteria it used in deciding that the siting of 10 turbines in Category 1 habitat constitutes avoidance to "the maximum extent practicable" and explain why other alternatives would result in either more take or the same amount of take of bats and/or suitable habitat. An alternative in which turbines are sited only in the lowest risk	Siting of turbines is constrained by where the Applicant has leases, where winds are sufficient to generate power, where mandatory setbacks exist (e.g., residences, roads, property lines), and many other factors. The Applicant sited most turbines in areas that do not provide high-quality Indiana bat habitat (at least 63% of turbines will be sited in the lowest quality habitat, Category 4 habitat, see HCP Table 6-2). The Applicant avoided siting turbines within 2.9 km (1.8 mi) of documented maternity roost trees. The applicant then applied the strictest operational protocol to turbines in the highest quality habitat areas, thereby providing avoidance measures that are commensurate with potential risk to Indiana bats. Further, Indiana bats may move across the landscape over the 30 year operational life of the project therefore turbine siting based on habitat location alone was not considered a viable alternative. The alternatives considered apply a biologically-based approach to reducing take using proven avoidance measures (e.g., feathering and cut-in speeds).

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	categories (i.e., Category 3 and 4) is a reasonable alternative to the Proposed Action. Or, if this option is technically infeasible, an explanation of infeasibility should be provided so that the public may understand what USFWS and the Applicant consider as avoidance "to the maximum extent practicable." The rationale offered in the DEIS for not studying a different project design is clearly lacking. The DEIS must provide an explanation of why the proposed turbine siting, in USFWS's opinion, does indeed minimize take of Indiana bats to the maximum extent practicable.	
0030-15	. The DEIS Must Consider and Analyze Alternative Schemes for Cut-In Speed (Operational Feathering). Even the set of operational alternatives that is considered is not a reasonable range of alternatives; the considered set omits reasonable and feasible alternatives that the best available science shows can better meet the DEIS's purposes and needs. Studies of the likely reduction in bat fatalities due to increasing cut-in speeds at two operating wind power facilities – Casselman and Fowler Ridge [86] – show that curtailing cut-in speed to 6.5 m/s would substantially reduce bat mortality. Yet the highest cut-in speed proposed in the DEIS is 6.0 m/s and in Category 1 habitat only.[87] This curtailment proposal leaves un-minimized risk of Indiana bat fatalities due to turbine operation, for no justified reason. The studies to date show that 6.5 m/s is the cut-in speed that reduces bat fatalities substantially – not 6.0 m/s and not 5.75 m/s. In fact, there is no evidence that a cut-in speed of 6.0 m/s would reduce bat fatalities by the same amount as would 6.5 m/s. A choice of cut-in speed below 6.5 m/s is not indicated by the best available science presented and is arbitrary. Moreover, the application of categories of habitat suitability as a basis for proposing cut-in speeds is likely not valid for Indiana bats migrating through the Project area (see Comment 5.1). A reasonable set of alternatives for operational feathering includes the following: (1) an alternative that sets a nightly cut-in speed at 6.5 m/s for all turbines in all habitats in all seasons; (2) an alternative that prohibits turbines from Category 1 and 2 habitats or shuts down those turbines nightly in the active seasons, and sets a nightly cut-in speed at 5.75 m/s for turbines in Category 3 and 4 habitats; (3) an alternative that sets a nightly cut-in speed at 6.5 m/s for turbines in Category 1 and 2 habitats and cut-in speeds of 5.75 to 6.0 m/s for turbines in Category 3 and 4 habitats; (4) an alternative that sets a nightly cut-in speed at 6.5 m/s for turbines in fall and summer only. The DEIS's treatment of alternatives A and B illustrates that the range of alternatives considered is unreasonable. The Applicant asserts that Alternative A is not economically feasible, and that Alternative B does not meet the goals of USFWS to the same extent as the Proposed Action. Therefore, the choice is essentially between the Proposed Action and No Action.	The EIS evaluates a sufficient range of alternatives including the use of several feathering and cut-in speed regimes and full curtailment at night, measures which have been proven to reduce bat fatalities at wind power facilities. Multiple studies have tested a range of cut-in speeds between 3.5 m/s and 6.5 m/s (Good et al. 2012, Good et al. 2011, Arnett et al. 2011, Baerwald et al. 2008). All of these studies have documented a significant difference in the level of bat mortality between turbines that are operating per the manufacturer programmed settings, and those that are operating with feathering and use of a cut-in speed. The selection of cut-in speeds analyzed in the EIS considers a range of cut-in speeds between the range that has been tested, as well as full curtailment at night. All of these alternatives will result in reduction in bat mortalities compared to turbines operating per the manufacturer programmed settings. There is an infinite variety of combinations of cut-in speeds and habitat categories that could be combined to develop many different possible alternatives. The alternatives selected for analysis in the EIS present a reasonable range of possible alternatives.
0030-16	Neither the DEIS nor the DHCP elaborate on what constitutes "economically feasible." In order to assess	The determination of whether or not a project has minimized the impacts of the taking to the

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	whether a proposed alternative can in fact meet USFWS's needs of "protecting the Indiana bat's habitat to the maximum extent practicable" there needs to be a discussion of what constitutes commercial viability. Otherwise, it is impossible to conduct an objective and fair comparison of the competing alternatives. In any event, it may be assumed (from the Applicant's statement about economic viability) that should USFWS select Alternative A, the Applicant would not move forward with the project as it would no longer be economically viable. If economic viability means profitability, Alternative A would not be profitable and therefore unmanageable. As mentioned above, if Alternative A is in fact not economically viable, it should have been eliminated from detailed study or, if retained for detailed study, the DEIS should present evidence for that claim to show that the conclusion is based on sound reasoning. The DEIS does not discuss the Applicant's renewable energy goals or threshold generation requirements for commercial viability. USFWS cannot approve the Proposed Action without considering an alternative that allows for economic feasibility but is more restrictive than that proposed by the Applicant. As it stands now, the comparison between the proposed Action and Alternative A is uninformative. It tells us nothing about the relative value and practicability of incrementally increasing cut-in speeds. The DEIS explains that for the Proposed Action's "Fall Feathering Plan" the late summer/early fall cut-in speeds were selected based on acoustic monitoring studies and post- construction mortality monitoring studies that reported significant reductions in bat mortality rates at cut-in speeds of 5.0 m/s and 6.5 m/s.88	maximum extent practicable is not strictly a determination of commercial viability or economic feasibility. Instead it is a biological standard that considers how the species is impacted by the taking and mitigation. If the Applicant provides biologically based minimization measures and mitigation measures that are fully commensurate with the level of impacts and implements mitigation that offsets the impacts of the take, they have minimized and mitigated to the maximum extent practicable. The FWS disagrees with the comment that Alternative A should have been eliminated from detailed study. CEQ requires that alternatives analyzed must be reasonable and not necessarily economically viable. USFWS considered Alternative A as a reasonable alternative that should be carried forward.
0030-17	The authors of the Casselman wind facility study – a study upon which the Applicant relies in part in proposing cut-in speeds – concluded that if the 6.5 m/s cut-in speed had been applied to all 23 turbines during the study period, the lost output would have amounted to only 1% of total annual output.89 In other words, by applying a cut-in speed of 6.5 m/s to turbines, a measure indicated by the available science as relatively protective, lost power revenues would be negligible while bat mortality would be substantially reduced. And yet, the highest cut-in speed in the Proposed Action is 6.0 m/s in Category 1 habitat and only at certain times of the year. Neither the DEIS nor the DHCP explain why the Applicant chose 6.0 m/s rather than 6.5 m/s. The studies relied upon in the DEIS and DHCP, taken together, convey that commercial wind facilities can operate with cut-in speeds of 6.5 m/s and remain economically viable. If these studies represent the most up-to-date information regarding the impacts of cut-in speeds on bat mortality – and they are presented as such by the documents – USFWS must study an alternative that incorporates the actual findings of the study. Again, NEPA regulations require USFWS to "rigorously explore" all "[r]easonable alternatives" which "include those that are practical or feasible from the technical and economic standpoint and	The single study that evaluated the financial cost of using a 6.5 m/s cut-in speed (Arnett et al. 2011) only evaluated the cost of applying the 6.5 m/s cut-in speed for a 75-day period. In that study the author states, "Numerous factors influence power loss – and thus financial costs – of raising cut-in speed of wind turbines to reduce bat fatalities. These factors include type and size of wind turbines, market or contract prices of power, electricity purchase agreements and associated fines for violating delivery of power, variation in temporal consistency, and speed and duration of wind across different sites" (Arnett et al. 2011). If a 6.5 m/s cut-in speed were applied to the Buckeye Wind Project over the entire season of activity for Indiana bats within the Project area (April 1-Oct. 31), the lost output would certainly differ than the estimates for the Casselman wind facility. Section 6.6.2 of the HCP (Practical Implementation by Buckeye Wind) provides a comparison of the costs of implementing the various proposed alternatives. Further, whether or not a project is economically viable is not the threshold for issuance of an ITP. Rather the thresholds for permit issuance are biological measures of the impact of the proposed

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	using common sense rather than simply desirable from the standpoint of the applicant."90 Not only do the cut-in speed studies cited above indicate that cut-in speeds of 6.5 m/s are technologically workable but they also indicate that higher cut-in speeds are economically feasible. In summary, USFWS has not adequately explored other alternatives to the Proposed Action that may be both technologically and economically feasible. The DEIS's analysis of the alternatives artificially and without adequate justification narrows the studied alternatives to two – the Proposed Action and No Action. The maximally restrictive operations Alternative A is deemed economically inviable, and the minimally restricted operations Alternative B does not meet USFWS's purpose and needs. In between the maximally and minimally restricted operational alternatives are a range of reasonable operational alternatives and reasonable non-operational alternatives. The DEIS's alternatives analysis as it currently stands violates NEPA.	taking on the species.
0030-18	The Descriptions And Comparisons Of The Alternatives Are Confusing, Inconsistent, And Do Not Offer A Baseline From Which To Evaluate Them. The DEIS studies four alternatives: Proposed Action, Maximally Restrictive Operations ("Alternative A"), Minimally Restrictive Operations ("Alternative B"), and No Action. We have already commented above that this is not a reasonable range of alternatives and thus violates NEPA. In addition, the explanation of these alternatives is inadequate. A reasoned choice requires the agency to clearly document the environmental advantages and risks of the proposed alternatives as completely and objectively as possible. Unfortunately, USFWS has not done so in the DEIS. The DEIS must be more descriptive and thorough. USFWS repeatedly makes inconsistent statements so as to render the comparison of alternatives confusing. First, it is unclear whether the Proposed Action's "project components and associated infrastructure" include the "Siting Criteria" on page 3-3 or whether it merely includes the project components (i.e., turbines, service roads, electrical interconnect lines, etc.) as listed on pages 3-3 to 3-4.94 Second, Table 3.5-1, which summarizes the key features of each alternative, indicates that two of the DHCP's components include (1) avoiding the removal of the three known Indiana bat roost trees in the action area and (2) conducting tree clearing between November 1 and March 31 to avoid potential mortality of Indiana bats that could result from removal of previously unidentified maternity roost trees. The Table notes that under Alternative A, the Maximally Restricted Operations Alternative, neither of these features would be implemented. And yet, Table 6.1-1, which summarizes the comparison of anticipated impacts for each alternative, indicates that as with the Proposed Action, habitat loss would occur only under Alternative A during construction in the non-roosting season so as to preclude direct effects to Indiana bats. A complete and thorough discussion of the alternatives in	The Project components and associated infrastructure include the "siting criteria" on page 3-3. The Final EIS has added language to clarify this. Table 3.5-1 has been corrected in the Final EIS.

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	the DEIS is clearly lacking. The inconsistencies throughout the DEIS serve only to confuse the reader. If the two key features of the HCP mentioned above – the non-removal of known Indiana bat maternity trees and the timing of tree clearing – are not in fact incorporated into Alternative A, as Table 3.5-1 would suggest, then the analysis of direct and indirect impacts to the Indiana bat and its habitat under section 5.5 is inaccurate. If the known maternity roost trees are removed, the impact to the Indiana bat's habitat is in fact greater than that described in the DEIS. Similarly, if tree clearing is conducted during the roosting period, the risk of take of Indiana bats is much greater than if tree clearing is conducted from November through March. USFWS must reassess the descriptions of the alternatives and give a baseline from which the alternatives differ. As it stands, it is unclear which avoidance and mitigation measures correspond to each and which do not.	
0030-19	C. The Treatment of Alternatives Shows a Bias In Favor of the Proposed Action, And as a Result, the DEIS Fails to Give Substantial Treatment to the Other Alternatives. To illustrate the appearance of bias in favor of the Applicant's Proposed Action, one need only look at the brief and bare discussions of Alternatives A and B. With respect to the cumulative impacts on migratory birds, for example, the DEIS spends pages 5-158 to 5-173 on the Proposed Action's cumulative impacts, a total of 15 pages. The summary paragraph concludes: Migratory bird collisions at man-made structures including wind turbines, communication towers, windows, and transmission lines, may account for 278 million to more than 1.1 billion birds per year and could equate to as many as 33.75 billion birds over the life the Buckeye Project, resulting in a significant cumulative impact. Mortality is likely to be distributed across many groups and species, but most (approximately 70%) would be comprised of passerines. Fatalities of a single passerine species could number as many as 12,700 in a year based on certain projections . . . For many common species of migratory birds, this level of mortality would not significantly impact the ability of the larger population to survive, but for rare species and local populations of some species, this mortality level could affect long-term viability of the species or its distribution locally ...Many measures that Buckeye Wind is proposing within their ABPP would avoid and minimize the potential for bird strikes to occur at their facility. These measures would prevent large-scale episodic mortality events and minimize bird attraction to the facility. The proposed avoidance and minimization measures that would be implemented by Buckeye Wind should substantially reduce the likelihood that mortality of migratory birds at their facility would be significant or substantially additive from a regional cumulative effects perspective. Should other wind and communication towers and buildings in the eastern flyways zone implement lighting protocols to reduce attraction of birds and implement an ABPP similar to that proposed by Buckeye Wind, cumulative bird collision mortality could be	The USFWS disagrees with this comment and as stated previously the EIS analyzes a full range of alternatives. The cumulative impacts assessment in the Final EIS has been revised to remove any suggested bias and to clarify terminology.

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	substantially reduced.95 The discussion of Alternatives A and B are each a single paragraph compared to the Proposed Action's fifteen page discussion. That a single paragraph satisfies "substantial treatment" is questionable, especially considering the fifteen pages dedicated to the Proposed Action. The cumulative impacts to migratory birds under Alternative A reads as follows: The operational adjustment under Alternative A would involve all 100 turbines being non-operational from sunset to sunrise from April 1 through October 31, which would reduce the collision risk to night-flying birds during this period. Birds would still experience collision risks associated with early spring and late- fall migration. Diurnally active migratory and resident birds and winter resident birds would also be exposed to collision risk during their regular activities within the Action Area. It can be assumed that mortality impacts to bird species would be similar to the Proposed Action during the period from November 1 through March 31, but somewhat lower from April 1 through October 31. Therefore, the cumulative effects of Alternative A on migratory species would be much less than those of the Proposed Action, although this alternative is not economically feasible for the Applicant. The Proposed Action, which includes feathering and modified cut-in speeds, is economically feasible and would not contribute significantly to cumulative effects on migratory birds.96 Notably missing from the discussion is any quantitative data to provide meaning and context for the terms "somewhat lower" or "much less." Courts have found that "[g]eneral statements about 'possible effects' and 'some risk' do not constitute a 'hard look' absent a justification regarding why more definitive information could not be provided."97 But even more perplexing is the inclusion of the worth of the Proposed Action in the discussion of Alternative A's cumulative effects. Rather than providing an objective statement about cumulative impacts to migratory birds under Alternative A, the DEIS instead makes a statement that borders on justification for preferring the Proposed Action. It becomes even more problematic when one considers the paragraph on Alternative B: The operational adjustment under Alternative B would involve feathering turbines until cut-in speeds of 5.0 m/s (11 mph) for all 100 turbines during the first one to six hours after sunset from August 1 through October 31. The effects of feathering on birds are not well known, and reduced cut-in speeds have not been clearly shown to reduce bird deaths. However, given the minimal operational restrictions, it is likely that this alternative would result in higher levels of mortality than under the Proposed Action or Alternative A, and would therefore increase the cumulative effects on bird species in the region.98 Taken together, the cumulative impacts assessment on migratory birds is overly suggestive of the worth of the Proposed Action. If Alternative B increases cumulative effects and Alternative A is	

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	not economically feasible, then the only viable alternative to No Action is the Proposed Action. This does not represent an objective and reasonable evaluation of alternatives. Most of the other sections in the DEIS incorporate the same pattern of bias and give undue weight to the merits of the Proposed Action.	
0030-20	COMMENT 5.1. THE DHCP'S PROPOSED OPERATIONAL CHANGES TO CUT- IN SPEEDS (OPERATIONAL FEATHERING) DO NOT MEET THE "MINIMIZE TO THE MAXIMUM EXTENT PRACTICABLE" STANDARD. A. Background To issue an ITP, USFWS must find that the Project's applicant will, to the maximum extent practicable, minimize and mitigate the impacts of the taking.99 This is also part of the goal stated in Section 1.2 of the DHCP. According to the HCP/ITP Handbook,100 USFWS ultimately must decide, at the conclusion of the permit application processing phase, whether the minimization and mitigation program proposed by the applicant has satisfied this statutory issuance criterion. The finding that the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking, typically requires consideration of two factors: adequacy of the minimization and mitigation program and whether it is the maximum that can be practically implemented by the applicant. "To the extent that the minimization and mitigation program can be demonstrated to provide substantial benefits to the species, less emphasis can be placed on the second factor. However, particularly where the adequacy of the mitigation is a close call, the record must contain some basis to conclude that the proposed program is the maximum that can be reasonably required by that applicant. This may require weighing the costs of implementing additional mitigation, benefits and costs of implementing additional mitigation, the amount of mitigation provided by other applicants in similar situations, and the abilities of that particular applicant."101 USFWS's 2011 Wind Energy Projects Guidance 102 provides additional guidance regarding this permit issuance criterion. In the guidance, USFWS addressed the question, "What does 'minimize and mitigate to the maximum extent practicable' mean?" The agency response is as follows: Response: This issuance criterion requires us to evaluate the effectiveness of the applicants' proposed minimization and mitigation measures. It is important to understand that in doing so, we must focus solely on measures to be undertaken to reduce the likelihood and extent of the impact of take resulting from the project as proposed, as well as appropriate compensatory measures. We interpret this section to mean that the impacts of the proposed project, including the HCP, which were not eliminated through informal negotiation, must be minimized to the maximum extent practicable and those remaining impacts that cannot be further minimized must be mitigated to the maximum extent practicable. These standards are based in a biological determination of the impacts of the project as proposed, what would further minimize those impacts, and then what	The commenter summarizes studies relied upon by the HCP to develop the minimization plan. The commenter states that "studies to-date show that 6.5 m/s is the cut-in speed that reduces bat fatalities substantially – not 6.0 m/s and not 5.75 m/s," claiming further that a baseline cut-in speed of 6.5 m/s is the only non-arbitrary choice for minimizing Indiana bat take. In conclusion, the commenter claims that "the choice of the baseline cut-in speed of 6.0 m/s is arbitrary, particularly in Category 1 habitats, and is not shown to be adequate to minimize the effects of the take of Indiana bats." First, as the commenter notes in its summary of the curtailment studies that the Project in Casselman, PA and Fowler Ridge, IN, both found significant reductions in mortality at both 5.0 m/s and 6.5 m/s. The HCP makes the reasoned and non-arbitrary argument that, if both 5.0 m/s and 6.5 m/s result in significant reduction in mortality, then cut-in speeds between 5.0 m/s and 6.5 m/s can be expected to result in similar reduction in mortality. In fact, the Casselman study did not find a statistical difference between the two cut-in speeds, though the Fowler Ridge study showed a statistical difference. As further support of the HCP approach, a second year of curtailment study at Fowler Ridge was published after completion of the HCP. That study documented fatality reductions at cut-in speeds of 3.5 m/s, 4.5 m/s and 5.5 m/s with a mean reduction of 36.3%, 56.7% and 73.3% respectively. The minimization plan proposed in the HCP is not arbitrary in the least. The plan took careful consideration of the best available science, including: • Increasing cut-in speeds to 5.0 m/s and 6.5 m/s would significantly decrease bat mortality. The HCP adopts the more conservative conclusion that there is likely some increase in the benefit to bats as cut-in speeds are increased. • The habitat in which the turbine is located may be one risk factor at certain times of the year (see the Habitat Suitability Model), resulting in different cut-in speeds for turbines based on habitat. • Risk may depend on time of year (migration versus summer foraging),

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	would biologically mitigate or compensate for those remaining biological impacts. If applicants provide biologically based minimization measures and mitigation measures that are fully commensurate with the level of impacts, they have minimized and mitigated to the maximum extent practicable. It is only where certain constraints may preclude full minimization or full mitigation that the "practicability" issue needs to be addressed more thoroughly. In those circumstances where the applicant cannot fully achieve the minimization and mitigation standards, we must evaluate whether the applicant has still minimized and mitigated to the maximum extent practicable. Note, in issuing the ITP we must not appreciably reduce the likelihood of survival and recovery of the species in the wild. Inability to fully compensate for the impacts of the take may make this criterion difficult to satisfy. Factors to be considered in the practicability analysis may include constraints based on the site itself, availability of mitigation habitat, timing and nature of the project, the financial means of the applicant, costs and time associated with redesign and going through local and state permitting and zoning processes, etc. We must evaluate whether the applicant has provided reasonable explanations concerning constraints and independently review the record of evidence supporting the applicant's assertions. The practicability evaluation is necessarily project specific, and may properly yield different determinations in different situations. 103 USFWS addressed two further questions in the guidance that are relevant to the issuance criterion: 68. Is it allowable for an applicant to mitigate in lieu of minimization measures, or must the applicant first minimize if possible? Response: An applicant must first minimize to the maximum extent practicable. 69. How do developers demonstrate "to the maximum extent practicable" when it comes to siting wind projects? How do we evaluate whether their "demonstration" is sufficient? Response: In reviewing an applicant's HCP, the Service must analyze the biological impacts of the project on the covered species. If the proposed siting of some or all of the turbines will cause impacts to the species the applicant should minimize those impacts by moving the turbines to more suitable locations. If an applicant is unwilling to move the turbines to further minimize the impacts due to economic reasons, the Service should require them to provide justification why they are unable to do so. An independent analysis or third party should review the information provided by the applicant to verify they have sited the turbines to the maximum extent practicable.104 A third source of guidance that is relevant to the ESA permit issuance criterion that the impact of take must be minimized to the maximum extent practicable is USFWS's interpretation of the practicability criterion in the Bald and Golden Eagle Protection Act. USFWS applies the "practicability" criterion for standard (one-time) eagle take permits. In determining whether to issue a standard permit, the agency evaluates, among other things, "Whether the	resulting in different cut-in speeds dependent on season. • Certain weather conditions may result in different levels of risk, resulting in different cut-in speeds depending on temperature, and possibly other weather-related factors. Second, the issuance criterion is "the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking" [16 USC Section 10(a)(2)(B)(ii))]. The impact of the taking is not dictated by the starting cut-in speed, but rather is dictated by the quantity of take and how it is distributed over time and population segments (see Section 5.1.2.5 of the HCP [Biological Significance of Incidental Take (Collision Mortality)]). The science used to formulate the minimization plan was informed by leading Indiana bat experts within the USFWS, the ODNR and from independent consultants and by relevant research conducted at wind projects throughout North America. The minimization plan is not arbitrary and is consistent with ITP issuance criteria.

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	applicant has proposed avoidance and minimization measures to reduce the take to the maximum degree practicable."105 USFWS must find, before issuing the permit, that "[t]he taking cannot practicably be avoided" and that "[t]he applicant has avoided and minimized impacts to eagles to the extent practicable."106 The regulations define the term "practicable" as "capable of being done after taking into consideration, relative to the magnitude of the impacts to eagles, the following three things: the cost of remedy compared to proponent resources; existing technology; and logistics in light of overall project purposes."107 In its response to public comments on the 2009 final eagle rule, USFWS provided examples of evaluating two factors – the magnitude of the impacts to eagles, and the resources of the project proponent – to determine whether a proposed set of conservation measures meets the criterion that "[t]he applicant has avoided and minimized impacts to eagles to the extent practicable."108 FWS explained how it might apply these two factors by giving examples in which it varied one factor at a time: i.e., varying the level of proponent resources while holding impact to eagles constant,109 and then varying impact while holding proponent resources constant.110 B. The Proposed Set of Cut-In Speeds (Operational Feathering) Does Not Satisfy the Permit Issuance Criterion and DHCP Goal of Minimization of Take. An applicant for an ITP must first minimize take to the maximum extent practicable before he or she mitigates the remaining take to the maximum extent practicable.111 The operational measures proposed in the DHCP, in particular the proposed cut-in speeds, do not satisfy the permit issuance criterion and DHCP goal of minimizing the impact of the likely take as predicted by the Risk Model and cut-in speed studies. The DHCP's assessment of the likely reduction in bat fatalities due to increasing cut-in speeds relies on studies at two operating wind power facilities – Casselman and Fowler Ridge – to develop its proposed minimization measures.112 The DHCP describes the results of these studies: The relationship between low wind speed and high activity is reinforced by operational curtailment experiments which have documented reductions in bat mortality by reducing the speed at which turbines become operational, or the "cut-in speed". During 2 years of study during the peak fall fatality period at the Cassleman, PA, wind facility, 12 turbines were randomly assigned each night to 1 of 3 experimental groups: fully operational, cut-in speed of 5.0 m/s, or cut-in speed of 6.5 m/s. Total fatalities at fully operational turbines were estimated to be 5.4 times greater on average than at curtailed turbines in 2008, and 3.6 times greater in 20094. In other words, 82% (95% confidence interval [CI] = 52% to 93%) of all fatalities at experimental turbines in 2008 and 72% (CI = 44% to 86%) in 2009 likely occurred when the turbines were fully operational (Arnett et al. 2010). A similar study was conducted at the Fowler Ridge, IN wind facility in 2010, after the first documented Indiana bat	

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	fatality was discovered there in 2009 (Good et al. 2011). From 1 August 2010 to 15 October 2010, 27 turbines were randomly assigned on a weekly basis to 1 of 3 experimental groups: fully operational, cut-in speed of 5.0 m/s, or cut-in speed of 6.5 m/s. An additional 9 turbines were fully operational for the entire survey period. Curtailment at 5.0 m/s was found to reduce mortality by 50% (90% CI = 37% to 61%), and curtailment at 6.5 m/s was found to reduce mortality by 79% (90% CI = 71% to 85%).113 Good et al. found a statistically significant difference between the cut-in speed treatments of 5.0 m/s and 6.5 m/s, although wind speeds at Casselman were not within the range required to show a statistical difference between the two cut-in speeds for a long enough period of time.114 In any case, the DHCP presents these studies as the best available science on the effects of curtailing cut-in speeds of wind turbines. Both studies found that curtailing cut-in speed up to 6.5 m/s would substantially reduce bat mortality. Yet, the highest cut-in speed proposed in the DHCP is 6.0 m/s and in Category 1 habitat only.115 This curtailment proposal leaves un-minimized risk of Indiana bat fatalities due to turbine operation, for no justified reason. The studies to date show that 6.5 m/s is the cut-in speed that reduces bat fatalities substantially – not 6.0 m/s and not 5.75 m/s. In fact, there is no evidence that a cut in speed of 6.0 m/s would reduce bat fatalities by the same amount as would 6.5 m/s. A choice of cut-in speed below 6.5 m/s is not indicated by the best available science presented and is arbitrary. Thus, for modification of cut-in speed as a curtailment method, a baseline cut-in speed of 6.5 m/s is the only non-arbitrary choice for minimizing Indiana bat take to the maximum extent practicable, as is particularly important if turbines end up being located in the highest risk Category 1 habitat. The DHCP presents reasons why it concludes that the proposed plan for minimizing take satisfies the "adequacy" requirement under USFWS's interpretation of the issuance criterion.116 This conclusion is inconsistent with the risk modeling presented as the best available science. First, as discussed in Comment 3.1, the Risk Model indicates that baseline take may be much higher than accounted for by the DHCP's decision to collapse all the information on uncertainty and use a global average of the outputs. Second, as discussed above, the studies of cut-in speed relied upon by the DHCP show that substantial benefit if gained by increasing cut-in speed to 6.5m/s. Thus, the choice of the baseline cut-in speed of 6.0 m/s is arbitrary, particularly in Category 1 habitats, and is not shown to be adequate to minimize the effects of the take of Indiana bats. Even if the adequacy of the proposed minimization plan is a close call, its adequacy should be considered together with the "practicability" prong of the issuance criterion.117	
0030-21	C. The DHCP Presents No Evidence or Explanation That It Would Be Impracticable to Apply a Cut-In Speed of 6.5 m/s, Which Is Shown by the Best Available Science to	Multiple studies have considered different cut-in speeds to date, and evidence demonstrates that use of feathering and a variety of different cut-in speeds

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	Substantially Reduce Bat Morality. The DHCP's analysis of "practicability"118 is inadequate for at least two reasons. First, as discussed in Section 5 above, a full range of reasonable alternatives is not evaluated, and so the practicability analysis is incomplete with regard to the range of alternatives considered. The draft analysis considers only two alternatives: the proposed action and the maximally restrictive operations alternative.119 Other reasonable alternatives, such as applying the cut-in speed of 6.5 m/s as indicated by the best available science to minimize Indiana bat fatalities, were not considered. For example, the DHCP presents no evidence or explanation that applying a cut-in speed of 6.5 m/s in Category 1 (highest risk) and Category 2 (moderate risk) habitat, at least, would be impracticable. Contrary to the DHCP's suggestion that operational constraints more restrictive than those proposed in the DHCP would be uncertain, the benefit of a cut-in speed of 6.5 m/s is well documented by the Casselman and Fowler Ridge studies. The burden is on the Applicant to present evidence that the proposed cut-in speeds are as effective as the cut-in speed of 6.5 m/s, particularly in Category 1 and Category 2 habitats. The record does not to date contain any basis to conclude that the proposed program of minimization is the maximum that can be reasonably required of the Applicant. Second, the practicability analysis for the proposed alternative and maximally restrictive alternative is inadequate even for those limited alternatives considered. The DHCP's analysis considers one factor only: the estimated costs of the minimization and mitigation measures to the Project expressed in implementation costs and lost revenues. Costs by themselves do not indicate "practicability" as that term is used in the ESA regulations. As discussed in the Background for this Comment, implementation and opportunity costs of an alternative must be considered in the context of several other factors, such as magnitude of the predicted impacts, the Applicant's resources, existing technology, and constraints on the Project. The DHCP's apparent conclusion that the maximally restrictive operations alternative is impracticable simply because "the cost of minimization would be significantly greater" and because the alternative "would place substantial additional financial burden on the Project" relative to the proposed alternative is unwarranted by the analysis presented. For example, costs in the millions are relatively minor if expected revenues are substantially larger or if the Applicant has sufficient resources earned in other operations. In fact, the DHCP focuses on project "viability" in its statement of purpose and need for the Project. For example, the final two purposes and needs of the Buckeye Wind Project are to "[l]ocate wind facilities in areas where adequate wind resources are available to make commercial wind development possible," and "[c]onstruct wind facilities with turbines of adequate size and number to be operated in a manner that allows them to be economically viable."120 The DHCP explains project viability further:	can significantly reduce all bat mortality compared to wind turbines that are not operating with feathering and cut-in speeds. Section 4.5.5 of the HCP (Collision Mortality at Wind Facilities) presents these cut-in speed studies and results. Buckeye Wind has proposed a feathering and cut-in speed regime that varies based on the biology of the Indiana bat (by season of risk, habitat quality, and temperature). The cut-in speeds selected are within the range of those cut-in speeds tested in the published literature, and implementation of the feathering and cut-in speed regime is anticipated to reduce potential Indiana bat take by approximately 68.3% (see discussion in Section 6.2.2 of the HCP [Minimization Measures]). Buckeye Wind is not required to demonstrate that implementation of a higher cut-in speed is "impracticable," rather under 50 CFR § 17.22(b)(2) they are required to document that they have, to the maximum extent practicable, minimized and mitigated the impacts of the taking, and that the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. The determination of whether or not a project has minimized the impacts of the taking to the maximum extent practicable is not based on commercial viability or economic feasibility. Instead it is a biological standard that considers how the species is impacted by the taking and mitigation. If the Applicant provides biologically based minimization measures and mitigation measures that are fully commensurate with the level of impacts and implements mitigation that offsets the impacts of the take, they have minimized and mitigated to the maximum extent practicable.

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	1.3.3 Project Viability Quality of wind resource, proximity to the bulk power transmission system, and availability of land are the primary factors driving the initial site selection of any wind power project. In addition to these factors, wind energy facilities also require an adequate number of appropriately-sized turbines to produce sufficient power to provide an economic return. The manner in which these turbines are operated also affects a wind facility's economic viability; increases to the manufacturer's specified cut-in speeds can impact annual power production and revenue.121 The DHCP's practicability analysis does not put the costs of minimization measures in the context of economic viability. The HCP should, but does not, address whether the costs of any alternative would make the Project economically inviable. The DHCP's suggestion that an adaptive management plan and uncertainty in benefits of curtailment justify the conclusion of impracticability is unwarranted. An adaptive management plan cannot be invoked to substitute for measures that are indicated by the best available science to constitute minimization to the maximum extent practicable. Moreover, contrary to the DHCP's suggestion, the benefit of the maximally restrictive operations alternative is relatively certain: bat mortality would be expected to be zero because turbines would not be spinning during the main period of bat activity. Again, the DHCP's conclusion that the proposed operational measures minimize the impacts of take to the maximum extent practicable is not warranted by the practicability analysis presented. This Project and ITP are but the beginning of a wave of similar projects and ITP applications as wind power development surges forward. The cumulative impact of wind power development is potentially severe for the Indiana bat and other hibernating bats as well as for tree bat species such as the red bat (Lasiurus borealis), hoary bat (Lasiurus cinereus), and silver- haired bat (Lasionycteris noctivagans).122 The Service now has an opportunity to ensure that wind power is developed in an environmentally responsible and sustainable manner that is protective of bats and other wildlife. It is imperative that the plan for avoidance and minimization of bat fatalities in this HCP squarely meets the issuance criterion to "minimize the impacts of take to the maximum extent practicable."	
0030-22	D. The Application of the Proposed Habitat Suitability Categories to Migrating Indiana Bats Is Not Adequately Supported by the Best Available Science, and Thus Differentiation of Minimization Measures by Habitat Category Is Not Warranted for Those Bats. The DHCP does not adequately justify why migrating bats using Category 2 and Category 3 habitats should not receive the same amount of protection from turbine-caused mortality, via a 6.5 m/s cut-in speed, as bats using Category 1 habitat. First, the habitat suitability model in draft Appendix B applies to summer habitat only, and not to migration habitat. The DHCP states that the delineated habitat categories were developed based on telemetry data	The commenter is concerned that the HCP does not adequately explain the varying risk differences associated with habitat level for migrating bats. In fact, the HCP makes no argument that there is a difference in risk for migrating Indiana bats related to habitat category, and the minimization plan is designed accordingly. During migration periods, Indiana bats *do* receive the same amount of protection from turbine related mortality in all Categories except for Category 4 in the spring. In the fall migration period, there is a minor difference in operational feathering (0.25 m/s) between Category 1 and Categories 2-4. This difference

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	from summer foraging and roosting Indiana bats, even though the DHCP goes on to briefly, but inadequately, argue that these same categories present varying levels of risk during migration. Second, studies indicate that Indiana bats may fly direct routes without respect to landscape structure or habitat. Third, even if summering Indiana bats use the habitat Categories differently in extent or degree, all of the habitats are "suitable" for Indiana bats. The DHCP itself states that "[f]or purposes of the risk analysis, Categories 1, 2 and 3 were considered suitable roosting and foraging habitat."123 Fourth, even with the results of the summer habitat suitability model, how bat presence and mortality are related to landscape and habitat features is highly uncertain. The Service has recently stated that there is "currently no reliable method for determining or evaluating the relative value of [different] areas as summer habitat for the Indiana bat."124 Thus, even if Category 2 and Category 3 habitats are indeed less suitable summer habitat and may be used with less frequency than Category 1 summer habitat, the DHCP does not take a hard look at why risk of exposure to turbines would significantly differ among the three habitat categories for Indiana bats migrating through the action area. The DHCP's argument that the summer habitat categories present varying levels of risk for migrating Indiana bats is cursory, speculative, and inadequately supported. The DHCP estimates that approximately 5800 Indiana bats will fly through the action area during spring and fall migration.125 If the Applicant desires to base its minimization measures on the conjecture that those Indiana bats will differentiate between the three categories of habitat during migration, then the HCP must provide evidence of such differentiation. To summarize, the best available science indicates that 6.5 m/s is the proper baseline cut- in speed to minimize the impacts of take to the maximum extent practicable, especially in habitat Categories 1 and 2 for bats summering in the action area and in habitat Categories 1, 2, and 3 for bats migrating through to other locations. We suggest that if several years of monitoring during the operational phase of the facility indicates that a 6.5 m/s cut-in speed in Category 2 or 3 habitats is associated with zero fatalities, then the adaptive management plan may provide for incrementally dropping the cut-in speed in response to the lack of take in those habitats.	accounts for the possibility that some summer foraging and roosting Indiana bats may be present after 1 August due to annual weather and behavioral pattern changes. Therefore a slightly higher initial operational cut-in speed is warranted and so the summer cut-in speed is carried over into the fall. In the spring migration period, there is an operational feathering difference between Category 1-3 and Category 4. This difference is 5.0 m/s in Categories 1-3 and the turbine manufacturer cut-in speed in Category 4. This accounts for the fact that the spring migratory period has been demonstrated to be the lowest risk to the little brown bat (a *Myotis* species similar to the Indiana bat), no Indiana bats have been killed during the spring migratory period as defined by the HCP, and that Category 4 represents the lowest habitat risk Category so it is unlikely Indiana bats would use this habitat for maternity colonies should they arrive to summer maternity habitat early. In other words, the difference in initial operational cut-in speeds during the migration periods is a conservative approach to providing additional protections for resident *foraging* bats that may remain active in the Action Area into the fall. Differentiation of minimization measures associated with habitat category is not based on posited differences in the risk to *migrating* bats within those habitat categories.
0030-23	E. The Application of the Proposed Habitat Suitability Categories to Indiana Bat Maternity Colonies Should Be Viewed With Caution. The results of the habitat suitability model are used in the DHCP to set different cut-in speeds for turbines in different habitat Categories. This sub-comment cautions against the general use of this method to identify differences in minimization and mitigation measures, particularly where Indiana bat maternity colonies may be undetected. Evidence suggests that we should have limited confidence in the validity of the habitat suitability categories as applied	The commenter urges caution when basing differences in the initial cut-in speeds during the summer maternity period on habitat Category. The commenter bases this comment on evidence that maternity colonies could be located in non-optimal habitat. The habitat Categories were developed based on site specific radio telemetry, roost data, and other known habitat preferences of Indiana bats to identify the areas where greatest concentrations of Indiana bats might be active, including optimal roosting and foraging habitat. It is understood that

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	to areas containing maternity colonies. In USFWS's biological opinion for the current plan to extend Interstate 69 from Evansville to Indianapolis, Indiana, the agency observed, "Because the Indiana bat is philopatric (i.e., loyal to its traditional summering area), there is currently no evidence to suggest that all maternity colonies are located in optimal foraging and roosting habitat. A possibility that may have contributed to the species' decline is that many existing maternity colonies are senescent (i.e., deaths outnumber births) or are population sinks."126 Moreover, of the 13 Indiana bat maternity colonies that would be affected by the I-69 project, USFWS identified four maternity colonies deemed to be of high concern for their long-term viability and conservation. All four of those high-concern colonies are located in marginal to poor habitats.127 Although USFWS's heightened concern for those colonies is due to both the poor habitat and development pressures, the point is that maternity colonies important to the Midwest RU may be located in low-suitability habitats.	roosting and foraging could occur in sub-optimal habitat. That is why feathering and cut-in speeds are used in all categories during the riskiest times of year. The habitat Categories were developed precisely to consider areas that are more risky for Indiana bats, with protection provided, at some level, for all Categories because we know Indiana bats are not always confined to the optimal habitat areas.
0030-24	COMMENT 5.2. THE DHCP DOES NOT EXPLAIN WHY IT IS IMPRACTICABLE TO ADJUST THE LOCATIONS OF TURBINES TO MEET THE "MINIMIZE TO THE MAXIMUM EXTENT PRACTICABLE" STANDARD. A. Background According to the USFWS Wind Energy Project Guidance, siting of turbines should be adjusted to minimize their impacts. 69. How do developers demonstrate "to the maximum extent practicable" when it comes to siting wind projects? How do we evaluate whether their "demonstration" is sufficient? Response: In reviewing an applicant's HCP, the Service must analyze the biological impacts of the project on the covered species. If the proposed siting of some or all of the turbines will cause impacts to the species the applicant should minimize those impacts by moving the turbines to more suitable locations. If an applicant is unwilling to move the turbines to further minimize the impacts due to economic reasons, the Service should require them to provide justification why they are unable to do so. An independent analysis or third party should review the information provided by the applicant to verify they have sited the turbines to the maximum extent practicable.128 USFWS recommends in its 2011 Wind Energy Projects Guidance that Indiana bat maternity colony home range be delineated to include all suitable habitat within 5 miles of a capture location if only capture data are available; all suitable habitat within at least 2.5 miles of a single documented maternity roost tree; all suitable habitat within at least 2.5 miles of the line drawn between the two documented roost trees; and all suitable habitat within at least 2.5 miles of the center of the polygon created by connecting three or more documented roost trees.129 B. The DHCP Presents No Evidence or Explanation That It Would Be Impracticable to Locate Most of the	As a first point, the Project location was previously adjusted in 2008 in response to bat captures to be at least 5 miles from the closest Indiana bat capture to attempt to avoid take. The commenter argues that the HCP should consider the placement of turbines outside of 2.5 miles from known maternity colonies. The commenter makes the same arguments for placement of turbines outside of Category 1. USFWS Section 7 and 10 Wind Guidance describes several methods for identifying the home range of Indiana bats for purposes for wind turbine siting. These methods include: If only capture point, buffer capture location by 5 miles, if only roost tree, buffer roost tree by 2.5 miles, and if telemetry data, connect all documented points into a minimum convex polygon. The Project had available site-specific telemetry data from Indiana bats caught during pre-construction surveys that was used to create a minimum convex polygon, and the HCP was enhanced through the consideration of that data. No turbines will be sited within the minimum convex polygon home range for the 3 radio-tracked Indiana bats in the northern portion of the Action Area. None of the turbines will be sited closer than 1.8 miles from known maternity roost trees that were documented during pre-construction surveys in 2009. As described in Section 6.1.1 of the HCP (Project Planning and Siting), attempts were made to avoid impact by locating the Project outside a five mile buffer of the discovered maternity colonies in 2008. Further adjustments based on captures in 2009 were not practical because it would require that the proposed turbine locations be moved outside of the Action Area. Project planning in the Action Area continued after discussions with the USFWS, and other avoidance and minimization measures were discussed and

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	Turbines at Least 2.5 Miles from Known Roost Trees and Maternity Colonies. The DHCP fails to explain how placement of the turbines will be compatible with the standard assumption that foraging Indiana bats may travel 2.5 miles from their roosts. The choice to locate as many turbines as practicable beyond this 2.5 mile distance would be an important method for minimizing the impacts of the turbines on Indiana bats. In fact, estimated take could be reduced to very low levels with such adjustments in turbine siting. The DHCP does not consider or examine such adjustments in turbine location. Thus, until that analysis is completed, the DHCP cannot conclude that the proposed measures meet the issuance criterion to minimize the impacts of take to the maximum extent practicable. C. The DHCP Presents No Evidence or Explanation That It Would Be Impracticable to Locate All Turbines Outside of Category 1 Habitat. Category 1 habitat, as delineated by the summer habitat suitability model in draft Appendix B, comprises 12% of the proposed action area.130 That is, 12% of the proposed action area was categorized as having the highest suitability for Indiana bat roosting and foraging activities. Locating all wind turbines outside of this Category 1 habitat might contribute substantially toward minimizing the take of Indiana bats. The DHCP should, but does not, consider and take a hard look at the contribution of this option to reducing take and the practicability of implementing this option. Thus, until that analysis is completed, the DHCP cannot conclude that the proposed measures meet the issuance criterion to minimize the impacts of take to the maximum extent practicable.	developed as part of the draft conservation program. In lieu of more site-specific data and because maternity colonies may move across the Action Area over time, the Applicant decided to focus on operational feathering regimes, which have been documented to reduce take of bats. The Habitat Suitability Model and cut-in speeds differentiated based on habitat Category offers a more informed site-specific minimization approach than generically applying a 2.5 miles "buffer" as is suggested by commenter. The HCP describes how turbines within different Categories would have varying cut-in speeds, and adaptive management could result in additional protections (e.g. higher cut speeds) for turbines within Category 1, if monitoring indicates that those turbines pose higher risks to bats.Avoidance measures were also applied during Project design. See HCP Sections 6.1 (Avoidance Measures) and 6.2 (Minimization Measures) for a detailed description of the avoidance and minimization measures that provide added protection to Indiana bats in suitable habitat areas.
0030-25	COMMENT 6.1. CUMULATIVE IMPACTS HAVE NOT BEEN ADEQUATELY ANALYZED. A. Background USFWS recognizes that further information and analysis is needed regarding the cumulative impact of past, present, and future wind developments.131 Individual impacts may appear small but, combined with other small projects, may collectively have significant impacts. In general, there is growing concern in the scientific community regarding the potential for bat kills and population declines given the rapid proliferation of wind power facilities and the large-scale mortality that has occurred at some facilities. Under NEPA, cumulative impact analysis is broader than for ESA Section 7 purposes. "Cumulative impact" under NEPA is defined as "the impact on the environment [that] results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions."132 Cumulative impacts are thus the total effect, including both direct and indirect effects, on a given resource (in this case the endangered Indiana bat), of all actions taken, no matter who has taken the actions (federal, nonfederal, and private).133 The CEQ advises that when analyzing the contribution of the proposed action to cumulative effects,	Thank you for your comment.

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	the geographic boundaries of the analysis should be conducted at the scale of human communities, landscapes, airsheds, watersheds, or eco-regions.134 Generally, the NEPA analyst must determine the geographic areas occupied by the affected resources outside of a project impact zone, and in most cases "the largest of these areas will be the appropriate area for the analysis of cumulative effects."135 For example, for migratory wildlife the appropriate geographic scale of analysis would be the breeding grounds, migration route, and wintering areas of affected population units.136 An adequate cumulative impact analysis requires exploration of, among other things, "the trends for activities and impacts in the area."137 Identification of activities and impacts are made by assessing, for example, "the proximity of the projects to each other either geographically or temporally; the probability of action affecting the same environmental system, especially systems that are susceptible to development pressures; the likelihood that the project will lead to a wide range of effects or lead to a number of associated projects; whether the effects of other projects are similar to those of the project under review; and the likelihood that the project will occur."138 Other sources of direct and indirect mortality for Indiana bats, besides wind power projects, include those listed in the 2007 Indiana bat draft recovery plan: quarrying and mining operations (summer and winter habitat), loss/degradation of summer/migration/swarming habitat, loss of forest habitat connectivity, some silvicultural practices and firewood collection, disease and parasites (e.g., WNS), predation, competition with other bat species, environmental contaminants (not just "pesticides"), climate change, and collisions with man-made objects (e.g., communication towers, airstrikes with airplanes, and roadkill).139 Human disturbance at hibernacula also is still an important threat to Indiana bats.140 Furthermore, the impacts of WNS may mask population declines resulting from projects and these other sources.	
0030-26	B. The DEIS's Cumulative Impact Analysis Does Not, But Should, Consider the Spatial Distribution of Expected Development. As discussed in Section 4, western Ohio appears to be more risky than eastern Ohio for migrating Indiana bats. In the DEIS, SFWS presents a map of Indiana bat summer records (Figure 4.5-2) and a map of Indiana bat migration records (Figure 4.5-3).141 Figure 4.5-3 in particular shows Indiana Bat Migration Records from 1971 to 2010 and identifies the action area as directly in a bundle of migration paths.142 Both maps, but particularly the migration records map, indicate that Indiana bat migration paths are concentrated in western Ohio. The eastern half of Ohio, on the other hand, shows few migration paths. The DEIS should examine the implications of whether future projects that may take Indiana bats will be concentrated in some parts of Ohio rather than other parts. The spatial distribution of future	Figure 4-6 in the HCP shows summer and winter band returns for Indiana bats. The lines connecting the summer and winter band returns are lines connecting summer captures with winter captures of the same individual. These are not "migration paths" in that bats have not been documented flying these routes through the Project area. Complete information on the spatial distribution of wind projects within the unit of analysis is unavailable. The available information on project location is not comprehensive so this type of analysis is not viable for the EIS.

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	sitings may affect the cumulative impacts on the Indiana bat and other bats and birds.	
0030-27	C. The Geographic Scope Of The Cumulative Impacts Analysis on Indiana Bat Habitat Is Too Narrow. In assessing the cumulative effects of the Proposed Action on bat mortality, the DEIS focuses on a wide geographic scale – the Midwest RU. The DEIS then inexplicably narrows its geographic scope to the proposed action area for the cumulative effects review on Indiana bat habitat. The DEIS avoids discussing the consequences to habitat loss and bat displacement on a larger scale. Habitat loss is a significant factor in cumulative effects analysis and should be comparable to the discussion on bat mortality in geographic scale. To illustrate the inadequacy of the "Habitat Loss" discussion, the DEIS simply states that "[o]ther than ongoing agricultural and small-scale and periodic timber harvesting activities, which are occurring or may occur in the Action Area over the ITP Term, the USFWS is not aware of future federal, state, or private activities in the Action Area that would directly or indirectly affect habitat for Indiana bats or other bats."143 The preceding discussion on bat mortality, however, was entirely focused on the Midwest RU. The DEIS predicts that Ohio will nearly quadruple its wind energy production, from 112 MW in 2011 to 414.4 MW in 2035.144 In Ohio, 2455 wind turbines are currently proposed.145 USFWS must analyze the location of reasonably foreseeable wind facilities and whether, in the aggregate, there is any potential to impact the migratory connectivity or habitat availability for bats. If all of the wind facilities are concentrated in places such as western Ohio where migratory paths of Indiana bats are concentrated, this raises a question as to the sustainability and trends of the Indiana bat population. If, on the other hand, wind resources will be fragmented throughout the State, or possibly concentrated in the eastern portion, the cumulative effects may be different.	The analysis of cumulative effects to bats from habitat impacts in Chapter 5 has been revised to include the Midwest Recovery Unit.
0030-28	D. The Cumulative Impacts Analysis on Bats and Birds Ignores the Impact That Projected Wind Facility Construction Will Have on Migratory Behavior. The cumulative impacts sections on birds and bats focus heavily on mortality rates. The calculations for those mortality rates take into consideration wind facilities that are currently operational, under construction, proposed, and expected by 2025 in the Midwest RU and eastern flyways zone.146 The cumulative impacts analysis fails, however, to consider wildlife behavior in the face of increased wind facility construction. The DEIS does not inform the public about the potential behavioral changes, such as migration patterns, roosting, or feeding activities, that may change over the course of the next 30 years. If wind facilities are concentrated in a particular region, the impacts to wildlife habitat could be greater than currently implied by the DEIS. Birds and bats may be forced to shift their migratory patterns and seek other suitable habitat.	There are currently no studies that demonstrate that wind turbines create a barrier to or displace birds or bats during migration. Several studies show that grassland birds may be displaced from nesting habitat when turbines (or other tall structures) are built (Johnson et al. 2000, Osborn et al. 1998, Leddy et al. 1999, WEST and Northwest 2004, Kerlinger and Dowdell 2008), and this is discussed in Section 5.4.2 of the EIS. However these studies are not relevant to migration.
0030-29	E. The Cumulative Impacts Analysis of WNS is Inadequate.	Section 5.1.2.5 of the HCP (Biological Significance

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	The cumulative impacts analysis of WNS is likewise lacking. USFWS discusses the significance of the role that WNS could play in the viability of the species' survival but fails to identify the additional impact that wind facility projects in the aggregate will have in the worst- case scenario where WNS does cause a 70% decline in population in the Midwest RU as occurred in the Northeast RU. Instead, the DEIS focuses narrowly on this 100 turbine project, concluding that once mitigation measures are implemented, "[t]he reduction in take. . .would proportionately reduce the impact on overall population numbers, and therefore impacts of Project-related take are highly unlikely to appreciably reduce the likelihood of survival and recovery of the Midwest RU population under predicted WNS scenarios."147 Later on in the DEIS, however, USFWS states that "[i]f the Midwest RU Indiana bat population or other cave bat populations were substantially reduced as a result of WNS or other causes, the projected level of mortality resulting from wind turbines could have greater implications for the viability of the population and the cumulative effects of this Project and past, present, and reasonably foreseeable actions considered in this analysis could result in significant effects to the Indiana bat or other cave bat population size or distribution."148 Our comments in Comment 3.2 are incorporated here by reference: we contend that the DHCP's and DEIS's conclusion that impacts of Project-related take are unlikely to appreciably reduce the likelihood of survival and recovery of the Midwest RU population under predicted WNS scenarios is unsupported and does not account for the dependence of the jeopardy determination on the status of the Midwest RU.	of Incidental Take [Collision Mortality]) addresses the biological significance of the take in terms of local maternity colonies and the Midwest RU. In this section, Buckeye Wind describes the impact of the Project on these two sub-population sets in terms of pre- and post-WNS. ITP issuance criteria states that, "the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild" (ESA 10(a)(2)(B)(iv). The purpose of Section 5.1.2.5 is to demonstrate through modeling that, regardless of the effects of WNS, the Project will not reduce maternity colony or the Midwest RU population to a non-viable population level appreciably sooner as a result of the Project than it would as a result of WNS in the absence of Project-related take. This fits with guidance from the USFWS Indiana Bat Section 7 and Section 10 Guidance for Wind Energy Projects (USFWS 2011e), which states that the USFWS would issue a no-jeopardy opinion if a project by itself would not "appreciably reduce" the likelihood of survival of the Indiana bat. The modeling in the HCP demonstrates that there would be no appreciable reduction on the survival or recovery of the species due Project-related take. The HCP demonstrates the population size trends with the estimated population reductions from WNS based on New York data from 2007 to 2011 with and without Project-related mortality. It is also important to note that the analysis in Section 5.1.2.5 of the HCP utilizes losses from WNS similar to those seen in other RUs. It should also be noted that the 50% reduction in take that is included in the HCP is proposed as an added measure that the Applicant has voluntarily included to further account for inherent uncertainty in the effects that WNS will have on Indiana bat populations. The impacts assessment indicates that take at the full requested level will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. The EIS Section 5.15.5 has been revised to include more analysis of cumulative effects of WNS and wind projects on Indiana bat populations.
0030-30	COMMENT 6.2. THE DEIS DOES NOT, BUT SHOULD, TAKE A HARD LOOK AT THE BIOLOGICAL IMPLICATIONS OF CUMULATIVE IMPACTS BY USING THE LESLIE MATRIX MODEL. The Leslie Matrix model results in Figure 5-2 of the DHCP 149 shows that the Project's impact to the Midwest RU is negative: that is, the requested take of Indiana bats by the Project alone, without other impacts such as WNS considered, causes a decline in the population abundance. Although the decline is relatively small – about 100 bats over 25 years – the significance of this result is that the natural reproduction of the populations is insufficient to compensate for the	The Biological Opinion, to be developed by the USFWS, will discuss in more detail the biological implications of the Project on Indiana bat.

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	Project's take. The theory behind harvest limits is that the population will compensate for the harvest-induced mortality.150 This Leslie Matrix model result begs the question regarding cumulative impact: what would the downward trajectory of the Indiana bat population look like if the existing and reasonably foreseeable future developments and projects in the Midwest RU are taking bats, with or without ITPs? This analysis was not but could have easily been completed to show the biological implications of the cumulative impacts in the Midwest RU. Moreover, what would the downward trajectory look like if that cumulative impact were added to possible impacts of WNS? Such an analysis would assist the agency in making the necessary determinations in this HCP/ITP process, and its absence reflects the failure of the DEIS to look hard at the cumulative impacts relevant to this proposed ITP.	
0030-31	COMMENT 6.3. THE DHCP MENTIONS A NEIGHBORING WIND FACILITY, BUT DOES NOT EXPLAIN WHY THIS FACILITY WAS OMITTED FROM THE CUMULATIVE EFFECTS ANALYSIS. A. Background Coordination of the HCP with Section 7 of the ESA requires USFWS to ensure that the Project is not likely to jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of designated critical habitat.151 Section 7 implementing regulations require, among other things, analysis of the direct and indirect effects of a proposed action and the cumulative effects of other activities on listed species. ESA regulations define "cumulative effects" as "those effects of future State or private activities, not involving Federal activities that are reasonably certain to occur within the action area of the Federal action subject to consultation."152 The agency uses cumulative effects to assist with the assessment of jeopardy: the direct and indirect effects of an action on the species, together with the effects of other activities that are interrelated or interdependent with that action, are considered along with the environmental baseline and the predicted cumulative effects to determine the overall effects to the species for purposes of preparing a biological opinion on the proposed action.153 USFWS's responsibilities during formal Section 7 consultation include "[e]valuate[ing] the effects of the action and cumulative effects on the listed species or critical habitat" and "[f]ormulat[ing] its biological opinion as to whether the action, taken together with cumulative effects, is likely to jeopardize the continued existence of listed species or result in the destruction or adverse modification of critical habitat."154 B. The Completeness of the DHCP's Analysis of Cumulative Effects Is Unclear. The DHCP's cumulative effects analysis is unclear in light of other discussions in the DHCP. The DHCP describes an "unrelated project" in Champaign County that may impact Indiana bats: "Mist-netting conducted in Champaign County during summer 2009 for an unrelated project	The commenter states that the cumulative effects analysis is unclear in light of an "unrelated project" in Champaign County that was described in the HCP. The commenter is concerned that the project would be within the Project's Action Area, or that the Action Area of other projects may overlap with the Project's Action Area. The referenced "unrelated project" is no longer being pursued by the associated developer. Buckeye's sister company, Champaign Wind LLC, has purchased the land leases for the neighboring project and incorporated those into the Proposed Action. The Applicant and the USFWS know of no other wind project that would share the footprint of this Project. As described in the HCP (Section 1.4.4 [Major Utility Facility Review]), both Buckeye Wind LLC and Champaign Wind LLC are expected to received certification from the Ohio Power Siting Board. Both entities are subsidiaries of EverPower Wind Holdings, and both are considered in the HCP.

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	resulted in the capture of 5 Indiana bats in the current Action Area."155 This and other descriptions suggest that there may be at least one other project footprint within the Project's action area or there may be action areas associated with other projects that overlap with the Project's action area. The HCP should clearly explain the boundaries of the Project's action area and describe any other developments or projects whose action area would overlap with the Project's action area.	
0030-32	COMMENT 7.1. THE PLANNED RESPONSE TO A DRASTIC POPULATION DECLINE CAUSED BY WNS DOES NOT REFLECT THE BEST SCIENCE AVAILABLE. The DEIS highlights the devastating effect that WNS has had on the Northeast RU Indiana bat populations. Specifically, the DEIS notes that "since the onset of WNS in 2006-2007 significant population declines have been observed in the Northeast RU (70% decline between 2007–2011)."156 USFWS predicts that as a result of "the extremely rapid rate at which WNS has spread over just 3 years, and the high mortality rates observed in the Northeast RU, population reductions of all cave bat species as a result of WNS in the Midwest RU are expected to increase ...which makes additional mortality from other sources (i.e. wind power) even more significant."157 The DHCP describes the proposed take reductions as a result of WNS: As a result of past and anticipated future declines due to WNS, the recovery of the Indiana bat is dependent upon reversing the current rate of decline. Therefore, Buckeye Wind, in coordination with the USFWS, will review the biennial winter census results compiled by the USFWS Indiana Bat Recovery Team and if the population of Indiana bats in the Midwest RU is reduced by 50% or more from 2009 pre-WNS levels, Buckeye Wind will commit to reducing requested 5-year take limits by 50%. In this event, the 5-year take limit would be 13.0 Indiana bats (or average of 2.6 Indiana bats per year). These reductions in take will result from fewer Indiana bats exposed because of overall population declines, having an effective adaptive management plan in place, and voluntary reductions in take because as the population declines, each individual becomes more valuable to the population as a whole.158 The DHCP's plan is to reduce the requested take limit of Indiana bats by the same percentage of the population decline due to WNS – i.e., a 50% decline in the Midwest RU would trigger a 50% reduction in annual take. This response is not consistent with the statedjustification: i.e., (1) that 50% fewer Indiana bats will be exposed because of the assumed linear relationship between overall population decline and the number of bats exposed to wind turbines in this particular action area; (2) that the adaptive management plan will kick in if that assumption is determined to be wrong; and (3) that "each individual becomes more valuable to the population as a whole."159 In the absence of the last factor, the 50% reduction in requested take might be a reasonable response to a 50%	The commenter argues that the HCP's commitment to reduce the annual take allowance by 50% is not consistent with stated justification. As stated in the response to 3.2(B) and detailed in the HCP (see Section 5.1.2.5 [Biological Significance of Incidental Take (Collision Mortality)]), Project related taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild, with or without the added measure of reducing allowed take by 50%. The commenter further details its view that the proper response to a 50% drop would be to implement further minimization and mitigation. Because adaptive management provides the framework for adjusting minimization and mitigation measures based on observed mortality, it would not be necessary to both reduce the take number and require additional minimization and mitigation measures. In other words, if the estimate take is already below the 50% reduction levels, it would be unreasonable to require additional minimization and mitigation anyway. If estimated take is above the 50% reduction levels, then adaptive management will occur to reduce the take. The impacts of the taking considered with WNS have already been analyzed in the HCP, and the mitigation plan fully offsets the impacts of the taking. The commenter also points out an inconsistency in the stated 2009 Range-wide and recovery unit populations of Indiana bats. This is due to an update to the Range-wide population estimate. The DEIS included the update, while the DHCP did not. The numbers from the EIS are included in the final HCP.

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	drop in the Midwest RU population only if the assumption that reductions in bats at the hibernacula have a uniform effect on all maternity colonies and summer use areas holds up to evidence. The last factor, however, indicates that the proper response to a 50% drop in the Midwest RU population is to implement further minimization and mitigation measures to compensate for the increased significance of the adjusted take. The DEIS and DHCP both point out that the significance of take increases as the status of the species becomes more dire. The DHCP states, "[A]s the population declines, each individual becomes more valuable to the population as a whole."160 Similarly, the DEIS states, "Although population numbers in this RU are still seemingly high, given the extremely rapid rate at which WNS has spread over just 3 years, and the high mortality rates observed in the Northeast RU, population reductions of all cave bat species as a result of WNS in the Midwest RU are expected to increase...which makes additional mortality from other sources (i.e. wind power) even more significant."161 The DEIS also states, "If the Midwest RU Indiana bat population or other cave bat populations were substantially reduced as a result of WNS or other causes, the projected level of mortality resulting from wind turbines could have greater implications for the viability of the population and the cumulative effects of this Project and past, present, and reasonably foreseeable actions considered in this analysis could result in significant effects to the Indiana bat or other cave bat population size or distribution."162 Thus, a 50% reduction in the species or Midwest RU population should trigger not only a reduced request of the take limit (due to fewer bats to encounter turbines) but also additional minimization and mitigation measures to account for the increased significance of the remaining population and take. This consideration should be considered or discussed in the DEIS and the DHCP. In light of these considerations, the description of adaptive management measures for WNS is inadequate. There is no indication how the Applicant proposes to reduce the proportion of bats taken from the population in the event that the population of Indiana bats does indeed decrease by half. For example, it is unclear whether feathering will be increased to a higher cut-in speed at all turbines, or only at a selection of turbines depending on the habitat category, or whether the turbines will be shut off at certain times instead. Additionally, the DEIS provides no explanation for the choice of proposed measures – that is, feathering versus non-operational turbines. The DEIS and DHCP should also specify the population abundance at which these adaptive management measures will be implemented. There is an inconsistency between the 2009 pre-WNS range wide population figures cited in the DEIS and the DHCP. Whereas the DEIS states that the 2009 range wide population of Indiana bats was 415,512, and the 2009 population estimate for the Midwest RU was 281,909,163 the DHCP puts the population of Indiana bats at 387,835 and the 2009 Midwest RU population estimate at 269,574.164	

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0030-33	COMMENT 7.2. THE TRIGGERS FOR ADAPTIVE MANAGEMENT DO NOT, BUT SHOULD, INCLUDE CORRECTION FOR BIAS. A. The Best Science Indicates that a Trigger Based on Uncorrected Observations of Dead Bats Substantially Underestimates the Actual Impact. As the DHCP recognizes, unbiased estimates of bat mortality rates due to wind turbines are typically calculated using the number of observed carcasses and correcting that number for searcher efficiency, carcass persistence, the probability that a killed animal falls into a searched area, and searchable area.165 Variation in bat mortality estimates among studies may be partially attributable to differences in monitoring methodology and correction factors among other variables.166 However, the DHCP appears to be proposing in some instances to use triggers for adaptive management that are uncorrected for bias. Such use of uncorrected observations of fatalities is unwarranted and would hide the true take of Indiana bats. To get an idea of the bias error associated with using uncorrected observations of bat fatalities at wind turbines, we evaluated the results from three studies of bat fatalities at turbines.167 Table 1 shows the results of our evaluation. The table shows that on average, bat fatality estimates corrected for bias are four times the observed carcass count. B. The DHCP's Triggers for Adaptive Management Are Not Clearly Explained. Section 6.5.3.4 of the DHCP describes a scheme for triggering "immediate adaptive management." The section states in relevant part as follows: During any year of post-construction monitoring, observed Indiana bat mortality rates may trigger the need for immediate adaptive management. If 2 Indiana bat mortalities are documented at the site before the fall season, cut-in speeds will be increased by 1.0 m/s at all turbines for the remainder of the active period (Figure 6-5). Any additional documented Indiana bat mortality before the fall season or 2 additional fatalities during the fall season will result in all turbines being operated with a cut-in speed of 7.0 m/s. After the cut-in speeds are increased to 7.0 m/s, if additional Indiana bat mortality is documented all turbines will be turned off from 1 hour before sunset to 1 hour after sunrise for the remainder of the active period. If less than 2 Indiana bat mortalities are documented before the fall season, 2 Indiana bat mortalities in the fall season will trigger immediate adaptive management. If no Indiana bat mortalities are documented before the fall season and 3 Indiana bat mortalities are documented at the site during the fall season, immediate adaptive management will be triggered. In either scenario cut-in speeds will be increased by 1.0 m/s for the remainder of the active period. Any additional documented Indiana bat mortality will result in all turbines being operated with a cut-in speed of 7.0 m/s. If additional Indiana bat mortality is documented, all turbines will be turned off from 1 hour before sunset to 1 hour after sunrise for the remainder of the active period. Without knowing the scavenger rate and searcher efficiency	The commenter correctly points out that Adaptive Management decisions should be based on estimated mortality levels, using the raw observations and correcting for searcher efficiency, carcass persistence and searchable areas. The HCP includes detailed discussions on how correction factors will be calculated and applied. The confusion seems to involve the approach described in Section 6.5.3.5 of the HCP (Trigger Point for Immediate Adaptive Management). In this section, the HCP describes a mechanism by which the Applicant will be able to adjust, in real time, to impacts that could potentially lead to greater than expected mortality. By definition, the adaptive management in this section would not, and could not, include a bias correction on the raw observations. Rather, it is an important mechanism that allows immediate action, before the searcher efficiencies and carcass persistence trials are completed and an adequate correction factor can be applied. The bias correction factor of 4 that the commenter suggests is appropriate based on other studies, would not be appropriate for inclusion in this scenario. Buckeye Wind has attempted to minimize bias as much as possible by searching all turbines, having a large search area, having a subset of the search plots mowed, and searching on a 3-day interval. The purpose of Section 6.5.3.4 is to ensure that, when Indiana bat mortality is observed at numbers that would indicate that take of more than 5.2 Indiana bats in a single year may be likely to occur, operations during the remaining part of that year would immediately be changed to reduce the potential for additional take that year, and to make compliance with the 5-year take limit more manageable. The proposed triggers in Section 6.5.3.4 are expected to be extremely effective in keeping take to a minimum. Increasing the cut-in speeds by 1 m/s is expected to reduce take of all bats to very low levels. Further documentation of Indiana bat mortality would increase the cut-in speeds to 7.0 m/s in all Categories. The additional measure of nightly shut-down is proposed as an extreme measure in the highly unlikely case that further Indiana bat mortality is documented. In comment 7.2(B), the commenter claims that the triggers are not clearly explained. The HCP has been amended to make it clear that Adaptive Management triggers will all be based on corrected mortality estimates, with the exception of those triggers described in Section 6.5.3.5 of the HCP.

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	correction factors at this time, it is not possible to predict how many "estimated" Indiana bats would be calculated from a particular number of "observed" Indiana bats. However, once a "trigger point" is reached, adaptive management is designed to identify when "observed" Indiana bats would indicate exceptionally high number of "estimated" Indiana bats and to ensure that the elevated take does not occur in any one year. If a trigger event occurs in any year, adaptive management will be applied the following year according to the procedure following Greater than Expected Average mortality as described in section 6.5.3.4 – Greater Than Expected Average Mortality of Indiana Bats in Year-1.168 It is not clear from this discussion in the DHCP whether the trigger point is "observed" bat fatalities or an estimate of actual fatalities corrected for bias. Figure 6-5 indicates that a "documented mortality" is an observed carcass, but in section 6.5.2.8 the DHCP states that "in the time between creation of this HCP and commencement of post-construction mortality monitoring, and at times throughout the term of the ITP, it is highly likely that new formulas for estimating mortality based on observed carcasses will be developed." The HCP should clearly state whether the triggers for adaptive management are expressed in terms of raw observations of bat carcasses or in terms of estimates of fatalities corrected for bias. C. The Adaptive Management Triggers Should Depend on Estimates of Mortality Corrected for Bias and Not on Raw (Uncorrected) Observations. If the proposed trigger points for adaptive management set forth in the DHCP are expressed in terms of "observed" bat fatalities, these planned trigger points are unjustified and unacceptable. The above table shows that a correction factor of 4x is reasonable for converting observations of bat carcasses into estimates of actual mortality. Although a correction factor refined for the Project may differ, this 4x conversion factor provides an example of a rough but useful initial estimate. A rough correction is better than no correction, and that initial correction factor can be refined over time. The rough correction factor of 4x indicates that if the trigger for immediate adaptive management (as discussed on pages 209-210 of the DHCP) is an uncorrected observation of 2 dead Indiana bats, then the corresponding actual mortality is likely to be in the vicinity of 8 dead Indiana bats, almost twice the proposed annual baseline take of 5.2. The reasonable response to this level of take is to turn off all turbines from 1 hour before sunset to one hour after sunrise, rather than incrementally increasing cut-in speeds (the suggested response). The trigger points for immediate adaptive management, expressed as observed fatalities, should therefore be set at one observed bat fatality. Although the above comment focuses on the "immediate adaptive management" plan in Section 6.5.3.4 of the DHCP, the general principle that corrected estimates rather than raw observed fatalities should be the triggers for adaptive management applies to all triggers in the adaptive management plan.	

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0031-1	I support Buckeye Wind Power Project in Champaign County. I think they are doing a great job with the environmental impact and should be allowed to continue with the project.	Thank you for your comment.
0031-2	EverPower has worked with the USFWS for over a year to develop the first Indiana Bat Protection Plan in the US. Local wildlife will benefit from the Buckeye Wind Project and the proposed plan.	Thank you for your comment.
0032-1	I support the Buckeye Wind Project	Thank you for your comment.
0032-2	Everpower has spent a lot of effort on this plan. There was a two and a half month study of the bat activity on my property alone. This included putting up and monitoring of several bat boxes that took readings on bat activity by sound. This was in addition to their work with the USFWS. I feel they put forth a lot of time and effort to make this a good plan to protect the environment.	Thank you for your comment.
0033-1	The U.S. Fish and Wildlife Service should select the NO ACTION alternative and deny the requested ITP. At the very least, Buckeye Wind should be required to operate under ALTERNATIVE A (Maximally Restricted).	Thank you for your comment.
0033-2	We believe that the bat population has a favorable impact on our environment, the most important being that it reduces our reliance on insecticides and pesticides.	Operation of the proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to birds and bats. The resulting magnitude of impacts of the Project on local and regional bat populations would be so small as to not appreciably reduce the pest control benefits of bats and warrant increased pesticide use.
0033-3	The Everpower alternative poses an unconscionable risk to the bat population.	Impacts to bat populations are described in Section 5.4.2 of the EIS.
0034-1	I support the Buckeye Wind Project efforts to enhance wildlife by working closely with local authorities o USFW.	Thank you for your comment.
0034-2	We support the proposed plan and energy production that will provide an improved environment for wildlife and people.	Thank you for your comment.
0035-1	Bats in are community are VERY important to our environment. With the rural areas that we live in BATS are the balances in our insect population.	Operation of the proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to birds and bats. The resulting magnitude of impacts of the Project on local and regional bat populations would be so small as to not appreciably reduce the pest control benefits of bats and warrant increased pesticide use.
0035-2	This take permit must be denied do to the direct negative environmental impact on our community.....	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife and to the human environment.
0036-1	I would like for you to consider the comments from personal experience of living with wind turbines. Just today I could feel the throbbing on my chest from wind turbines.	Sections 4.14 (Health and Safety) and 5.14 (Health and Safety) of the EIS discuss the potential impacts of the Proposed Action and alternatives on human health and safety. Section 5.14 describes that the Applicant has taken a number of steps to avoid and minimize impacts to health and safety. The Project is not expected to have significant adverse impacts

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		on health and safety.
0036-2	How will this affect the bats in question? I don't believe most people have considered how this change of pressure will affect the bats in the area. For those who have educated themselves about this change in pressure know what happens to a bat.	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife.
0036-3	How many bats can we stand to lose?	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife.
0036-4	As a Farmer I say we have lost enough. How far out of balance are we going to permit our eco system to become before we realize the harm we have done. Our First Lady is trying to get all to eat healthier. I can tell you that the extra spray needed to control pest in our fields is getting out of hand. Why do labels on our spray give deadlines on timing of use? It's because it will carry over into the harvested crop. I know of farmers who do not always follow the guidelines. So we now have chemicals entering the food chain, and THAT IS NOT what our First Lady has in mind as healthy food.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0036-5	For this reason I ask that the proposed wind project be denied.	Thank you for your comment.
0037-1	A Buckeye Wind consultant claims it is inevitable that the Indiana bat will be eliminated in the Midwest Recovery Unit because of the spread of White Nose Syndrome--therefore (they reason), it matters not how many Indiana bats are killed by the Buckeye Wind project. Using this as an excuse to write off the species is contrary to the purpose of the Endangered Species Act. Conversely, the threat of White Nose Syndrome heightens the importance of protecting the life of every Indiana bat.	The threat of WNS does heighten the importance of protecting individual bats, to preserve genetic diversity and reproductive capacity. The HCP does not reason that it does not matter how many Indiana bats are killed by the Buckeye Wind Project. Rather, the baseline analysis of the impact of the taking includes the projected population declines from WNSbased on multiple years of monitoring in areas where WNS has been found. Furthermore, Buckeye Wind has committed to reducing their requested take if WNS reduces the population by 50% to try and further reduce the impacts of the taking on the population.
0037-2	And if there are no bats, in order to enjoy outdoor activities, Champaign County residents will be forced to use pesticides and insecticides. Everpower proposes to employ one of the least restrictive strategies to protect bats because they feel the cost to employ more protective alternatives is too much and will reduce their profits. But then what remains is COST--the cost to our families, our children, our pets, our livestock, our crops--these costs are financial and environmental.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0037-3	The Everpower Preferred Alternative poses an unacceptable risk to the Indiana bat and other species. USFWS should select the No Action alternative and deny the requested ITP. In the alternative, the USFWS should require that the Buckeye Wind project operate under Alternative A (Maximally Restricted.)	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife.
0038-1	As a birdwatcher, I find wind turbines environmentaly invasive. They invade both the ground and the air column which is the highway for all winged creatures.	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife.

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0038-2	Winged creatures do not have excess body fat in migration to avoid wind turbine arrays.	The Project is not sited in a known migratory pathway for birds or bats.
0038-3	These machines have the capacity to kill year after year.	Thank you for your comment.
0038-4	Bats play an important roll in our environment and prevent excessive use of pesticides.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0038-5	They are already being affected by white nose syndrome. The USFWS has an obligation to choose the most stringent form of protection for endangered species and to prevent other winged species from demise.	The ESA does not require that the USFWS choose the "most stringent form of protection for endangered species," rather, the issuance criterion is "the applicant will, to the maximum extent practicable, minimize and mitigate the impacts of such taking" [16 USC Section 10(a)(2)(B)(ii))].
0038-6	The Everpower Preferred Alternative poses an unacceptable risk to the Indiana bat and other species.	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife.
0038-7	U.S. Fish and Wildlife Service should select the No Action alternative and deny the requested ITP. In the alternative, the U.S. Fish and Wildlife Service should require that the Buckeye Wind project operate under Alternative A (Maximally Restricted).	Thank you for your comment.
0039-1	With all this woodland we have many bats and want to protect them for all they do to control the insect population.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0039-2	One of the turbines will be just 450 feet from our 22 acres of mature trees. There must be numerous bats in that area but in a few years with all the wind turbines there may be none. The more than 100 turbines are much too close to other woodlands, property lines and homes!	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife and the human environment. All turbines are located more than 279 m (914 ft) from permanent non-participating residences, and most turbine sites are located more than 305 m (1,000 ft) from permanent non-participating residences. Operation of the proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to bats. The resulting magnitude of impacts of the Project on local and regional bat populations would be minimal.
0040-1	Goshen Township is not a remote rural area. The vast majority of people living in this area are rural commuters to Columbus, Marysville, Springfield, Dayton, etc. Our bedroom community for Columbus and Dayton is no place for the scatter site development of a heavy industrial wind turbine project.	The EIS has considered potential impacts to the human environment.

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0040-2	Everpower's proposed wind turbines pose an unacceptable risk to the Indiana bat and other species. We need the bats and all the other wildlife in our area.	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife. Operation of the proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to birds and bats. The resulting magnitude of impacts of the Project on local and regional bird and bat populations would be minimal.
0041-1	We are aware that industrial wind turbines kill numerous bats yearly and this concerns us as we believe that the bat is crucial to maintaining a healthy eco-system and environment in our community.	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife. Operation of the proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to bats. The resulting magnitude of impacts of the Project on local and regional bat populations would be minimal.
0041-2	We, along with many other families affected by this project, have concerns about the negative impact this project would have on the local bat population which would result in more reliance on insecticides and pesticides.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0041-3	In relation to the Buckeye Wind Power Project, please deny the requested ITP and select the NO ACTION alternative.	Thank you for your comment.
0042-1	We live in Shelby County, Ohio where a wind farm is being proposed and we are aware of numerous species of endangered species of birds and bats that live in our area and we want to ensure they are around for many years. The adverse affects that a wind farm has on the birds and bats habitat will greatly affect the population in our area. It is irresponsible to knowingly extinct any endangered animal.	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife. Operation of the proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to birds and bats. The resulting magnitude of impacts of the Project on local and regional bird and bat populations would be minimal. The Proposed project or Maximally Restricted Alternative would not result in the extinction of any endangered animal.
0042-2	The wind turbines have shown to reduce bat population and bats are extremely helpful in controlling insects, with fewer bats more pesticides are likely to be required, potentially increasing the cost of food and contaminating our water supply.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0042-3	In addition, there have not been enough long term studies that show the affects wind farms have on these endangered species and would like to see more independent studies on the impact industrial wind turbines have on the bat and bird population prior to any wind turbines being erected.	Tables 5.15-2 and 5.15-8 in the EIS summarize a subset of studies that have evaluated wind power impacts to birds and bats, respectively. The HCP has used best available science and coordination with experts in the field to estimate impacts as closely as possible. The HCP offers a thorough assessment on the potential impacts on population levels at both the local level and the regional level. The effects analysis takes into account a time

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		dependent estimate of take, taking into account the increasing significance of the take as WNS becomes more prevalent in the region. In addition, the impact assessment shows that Project related take will not appreciably reduce the likelihood of the survival and recovery of the species in the wild, which is consistent with the issuance criteria established in the ESA.
0042-4	Finally, if a wind development is to proceed, only a portion should be constructed and a post construction mortality survey must be performed, by an independent company, for the bat and bird population for two years prior to any further wind turbine development/siting in the area and paid for by the energy company (not my tax dollars).	The Service did not analyze an alternative for phased construction because that is not how the proposed project is defined. Other wind projects (e.g., Beech Ridge HCP, West Virginia) may include an alternative with several phases of development because their project has already constructed the first phase, and the second phase may or may not be developed ultimately. Monitoring will be conducted by a third party consultant qualified to conduct post-construction mortality monitoring (see HCP Section 6.5.2). The Applicant will contract with and pay the consultant to do the work, but the Service and ODNR will approve the selection of the consultant. The Service will review the monitoring methods and results and reports to ensure that the work is being done as described in the HCP.
0043-1	It is my strong belief that the Habitat Conservation Plan (HCP) presented by Everpower is the right tool to protect our local wildlife, including the Indiana Bat. Everpower's willingness to develop this plan with the input of the U.S. Fish & Wildlife Service (Service) shows the great respect that the Company has for the community and its natural resources. The plan created by Everpower and the Service will prevent an appreciable loss of the endangered species, while also providing a strategy that can adapt to the changing needs of tomorrow.	Thank you for your comment.
0043-2	In reviewing the plan you will see that the collaboration between the developer and the Service resulted in a sound, practical, balanced plan which enables clean energy production.	Thank you for your comment.
0043-3	This clean energy production will displace hydrocarbon based energy that leads to pollution and wildlife habitat destruction.	This is addressed in the EIS in Section 5.11.
0043-4	Furthermore, I see no negative effects of the HCP on local residents. The plan will limit the impact of taking on the wildlife population, and therefore will not result in a noticeable change in wildlife activity for the local residents. The plan is both good for the local wildlife and the local residents, and I strongly recommend that the Service issue the Incidental Take Permit requested by Everpower.	Thank you for your comment.
0044-1	I am submitting as both an individual and a local official, township trustee for Rush township Champaign County. Our township could have several turbines and we are one hundred percent behind renewal energy construction.	Thank you for your comment.
0044-2	From an individual perspective I think we should do our	Thank you for your comment.

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	best to protect the ecosystem, including the brown bat, but my children and grandchildren will need renewal energy to maintain a standard of living we now enjoy.	
0044-3	Compared to coal mining,nuclear generation, and foreign energy an occasional brown bat is a acceptable trade off.	Thank you for your comment.
0044-4	Solar energy and natural gas are other options but solar is not as developed and less reliable than wind in the midwest and natural gas involves fracking which may have far reaching implications.	Thank you for your comment. The Purpose and Need for the proposed project is discussed in Chapter 1 of the EIS.
0045-1	As has been noted in many other areas of the United States most wind facilities have been known to add multiple turbines to previously approved sites. If the number of turbines were to increase over time there will be cause for further danger to bats. Have these issues been considered in the plan presented and are there further studies planned by Ohio Department of Natural Resources and/or the USFW if a request to increase the number of turbines within the current 80,051 acres.	The ITP, if issued, will be for 100 turbines as requested in Buckeye's application. The ITP will not cover more than 100 turbines. The EIS presents the maximum potential impact for the 100 turbines.
0045-2	The terrains of the three counties listed earlier vary broadly and have elements that are important to the safe migration, roosting, foraging and maternity colonies for the continued health and population of the Indiana Brown Bat and multiple other species of bats. Among these are multiple cavernous areas, large areas of forestation and many streams and pond areas that are essential to the health of not only the Indiana Brown Bat but to other bat species here. The disruption and fragmentation of this excellent habitation and migratory environment by the construction and running of the wind turbine facility produce multiple challenges to the bat community and population.	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife.
0045-3	Much of Buckeye Wind's HCP is based on assumptions (word used frequently in the plan) and theories that have had very little true scientific testing as is the case with the planned cut in speed changes as a mitigation program. The HCP offered by Buckeye Wind does give lip service to activities suggested in the USFW guidelines to correct some of the damages created by the project. However many of these planned actions are based primarily on assumptions (a word used frequently in the plan) and/or theories that have not yet had sound scientific testing.	The ESA requires that Applicants use the best available science. The HCP relies on multiple peer-reviewed studies that demonstrate that use of feathering and increased cut-in speeds will reduce bat mortality. To the extent that the estimates of the level of reduction associated with the proposed cut-in speeds are incorrect, the adaptive management component of the HCP provides a mechanism whereby adjustments to cut-in speeds, dates, etc., can be made as more data is collected. See HCP Section 6.2.2 – Project Operation and Maintenance and Section 6.5.3 – Adaptive Management for Minimization for more information in the basis for cut-in speed increase and adaptive management.
0045-4	1. Since disruption to habitat area is planned there needs to be plans in place to protect the off site habitats located in adjoining area during the construction and addition of power transmission lines in and around the project area. The type of structure and MV should be examined and approved by the Ohio Power Siting Board after giving environmental and wildlife assessment when a specific decision is made instead using the presumption of type	The Applicant has proposed a number of avoidance measures to ensure that the construction of the Project minimizes take to the maximum extent practicable. For example, all tree clearing will be conducted outside the active period for the Indiana bat when they are not present. In addition, the Project is designed to minimize the amount of suitable habitat that is removed and the Applicant

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	described in the Buckeye Wind Plan.	will perform a survey for potential roost trees prior to clearing and avoid any unnecessary removal of potential roost trees (see HCP Section 6.2.1 of the HCP [Project Construction]). Because of these measures, the Applicant believes that the construction activities are not likely to result in take of the Indiana bat. Despite that finding, the Applicant will add additional acreage to its mitigation plan to replace the woodlot acreage that will be removed during construction (see HCP Section 6.3.1 – Acres of Mitigation Calculation).
0045-5	The training and use of search dogs would improve the quality of the searches.	While dogs have shown some promise for being able to assist searchers and may become a viable method of monitoring in the future, that is not the case currently. The procurement, training, boarding and handling of dogs would present significant logistical challenges. As well, the use of dogs and a standard protocol for these types of searches has not been established. Having said that, Section 7.2.1.9 of the HCP (Use of New Methods, Information or Technical Advances) provides for the use of dogs in mortality monitoring should that approach become available.
0045-6	2. The limited number of tracked Indiana Brown Bats in the project area (12) is not a sufficient number to plan a take permit of only five per year in an areas with summer population of over 2000 and a migrating population over 5000 Indiana Bats.	The HCP utilizes best available science, expert input from third-party consultants, the USFWS, the ODNR and other independent parties to provide a comprehensive and thorough assessment of the potential impacts. While uncertainty is unavoidable, it is not clear that additional surveys would provide any further information that would allow more accurate evaluation of the Project's risk to Indiana bats.
0045-7	The training and supervision of personnel to search for bat carcasses around wind turbines is under the control of the Buckeye Wind Project. This bears the question of the reliability of those reports. It would be more appropriate for the monitoring agents to be Ohio Department of Natural Resources of the Ohio region Fish and Wildlife offices with Buckeye Wind paying for the services of those agents. Search dogs may be a very appropriate addition to the search process.	Neither the ODNR nor the USFWS have the manpower to conduct post-construction monitoring at this and other wind facilities. The HCP describes a detailed plan for conducting post construction monitoring, including the use of an independent consultant, selected based on qualifications, experience and costs that is approved by the ODNR DOW and the USFWS (please see HCP Section 6.5.2 – Methods for Minimization Monitoring). The Service will review the monitoring methods and results and reports to ensure that the work is being done as described in the HCP. Further, the Service will have a permit condition that allows us to access the project site for monitoring purposes.
0045-8	3. The search area should be expanded to two times the number of feet of the rotor blade.	The HCP describes that the search plot size will include "an area that extends 2.0 times the blade length from the base of the turbine" (see Section 6.5.2.4 of the HCP [Search Area]). After two years of post-construction monitoring, the search area may be contracted based on the results of the monitoring. As discussed in Section 6.5.2.4 of the HCP, 2.0 times the blade length would include an area that is greater than what available empirical

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		evidence has shown to be the typical disbursement of bat carcasses. The search area proposed in the HCP is appropriate.
0045-9	4. When carcasses are found they should be identified by DNA sampling and evaluated for the presence of White Nose Syndrome. If the species of the carcass cannot be determined it should be counted as an Indiana Brown Bat.	Section 6.5.2.8.1 of the HCP (Data Collection), includes a detailed description of how carcass will be collected, identified and reported. Any confirmed or suspected Indiana bat will be reported to the ODNR DOW and USFWS within 24 hours and positive ID will be made using a mutually acceptable approach. Any negative identification must be verified by the ODNR DOW and USFWS. DNA sampling of every carcass would be extremely costly and is not necessary. Every bat carcass will, at the least, be either verified as not an Indiana bat, or will be confirmed as being an Indiana bat. That is, while some bat carcasses may be designated "unknown," those bats will be verified as not Indiana bats, and therefore, will not need to be counted as Indiana bats. Additionally, the HCP allows for DNA testing if deemed necessary on *Myotis* carcasses in order to verify the species.
0045-10	5. There should be a limit on the number of turbines in close proximity to evaluate how many bats are killed in the first two year period of operation. The addition of all other turbines should progress no more than 15 turbines per year over a five year pattern time period so that with continued monitoring of previously built sites and new sites.	The first two years of operation will include intensive monitoring and, if necessary, adaptive management to ensure that the number of bats taken does not exceed the expected mortality (see HCP Sections 6.5.2.1 [Monitoring Phases] and 6.5.3 [Adaptive Management for Minimization]). "Phasing in" of the turbines over 5 years would not be reasonable as it would result in significantly higher construction and financing costs. In addition, given the adaptive management mechanisms, it would not be reasonably expected to result in greater protections for the Indiana bat.
0045-11	6. There should be no deforestation. Buckeye Winds plan to recreate forests appropriate for bat habitation are not methods that will recreate habitat in a time span as it would take decades to restore Indiana Bat's habitat.	Buckeye Wind has minimized forest impacts as much as possible, such that not more than 16.8 acres of forest would be impacted, which is 0.2% of forested habitat within the Action Area. Forested areas will only be cleared between November 1 and March 31, when Indiana bats would not be using forested habitat. Finally, the Applicant will add additional acreage to its mitigation plan to replace the woodlot acreage that will be removed during construction (see HCP Section 6.3.1 – Acres of Mitigation Calculation). These measures ensure that the impact of habitat loss on the Indiana bat will not rise to the level of take.
0045-12	No wind turbines should be placed closer than 7 miles to known roosting, foraging and maternity colony areas.	As a first point, the Project location was previously adjusted in 2008 in response to bat captures at least 5 miles from the closest Indiana bat capture to attempt to avoid take. The commenter argues that the HCP should consider the placement of turbines outside of 7 miles from known roosting, foraging, and maternity colony areas. USFWS Section 7 and

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		10 Wind Guidance describes several methods for identifying the home range of Indiana bats for purposes for wind turbine siting. These methods include: If only capture point, buffer capture location by 5 miles, if only roost tree, buffer roost tree by 2.5 miles, and if telemetry data, connect all documented points into a minimum convex polygon. The Project had available site-specific telemetry data from Indiana bats caught during pre-construction surveys that was used to create a minimum convex polygon, and the HCP was enhanced through the consideration of that data. No turbines will be sited within the minimum convex polygon home range for the 3 radio-tracked Indiana bats in the northern portion of the Action Area. None of the turbines will be sited closer than 1.8 miles from known maternity roost trees that were documented during pre-construction surveys in 2009. As described in the HCP Section 6.1.1 – Project Planning and Siting, attempts were made to avoid impact by locating the Project outside a five mile buffer of the discovered maternity colonies in 2008. Further adjustments to avoid Indiana bats detected in 2009 were not practical because it would require that the proposed turbine locations be moved outside of the Action Area. Project planning in the Action Area continued after discussions with the USFWS, and other avoidance and minimization measures were discussed and developed as part of the draft conservation program. In lieu of more site specific data and because maternity colonies may move across the Action Area over time, the Applicant decided to focus on operational feathering regimes, which have been documented in multiple studies to reduce take of bats.
0045-13	7. Careful attention to and ongoing monitoring of rapid wind speed changes and rapid changes in barometric pressure as these also may change the flight patterns of bats around wind turbines.	The HCP specifies that certain weather conditions, including temperature and barometric pressure, will be monitored as they relate to observed mortality. Adaptive Management allows for appropriate adjustments to Project operation related to these factors. The Applicant knows of no way to correlate the rate of change of wind speed or pressure with flight patterns, or even with mortality as mortality rates are determined through after-the-fact collection of carcasses. However, if there are clear indications of weather patterns or weather phenomena that can be correlated to mortality, the HCP does allow for consideration of those factors.
0045-14	Major reductions of bat populations from here and across the country provide major concerns above and beyond the protection of the endangered Indiana Brown Bat. Comments have been made within the governmental wildlife community that due to White Nose Syndrome other species of bats located in the area of Buckeye Wind Project may be added to the USFW species of bat considered to be species	Section 7.2.1.1 of the HCP describes the procedure for addressing the listing of new species under the ESA that is/are expected to occur within the Action Area.

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	of concern or of threatened status.	
0045-15	The importance of bats in agricultural industry and human health should be carefully included in the evaluation the appropriateness and success of establishment of the current HCP offer by Buckeye Wind. The necessity to add more and/or new types of insecticides to protect the agricultural crops from the many pests that are currently controlled heavily by bats. The costs of the development, purchase, and application of these insecticides will be in the billions of dollars which in turn will add greatly to the cost of food in this country. The results of the increased use of chemical insecticides to the quality of air in the human living environments will impact human health increasingly over each year. In some medical reviews it is noted that asthmatics, young children and the elderly are at increased risk of respiratory problems just from the mosquito spraying done during years of high mosquito populations. Bats have done and do provide efficient and excellent control of mosquito populations. However in urbanized areas where deforestation and destruction of habitable environment has limited bat populations to the point that these types of insecticides must be applied by air spraying frequently. At least one medical study examining health in cities where insecticides are sprayed have likened to the effects on humans to second hand smoke.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0045-16	Mosquitos are the vectors that carry both West Nile Virus types to humans and animals. When people are infected with it the results and be deadly. Again it is the elderly, young children and persons with compromised immune systems most at risk of death. However since West Nile Virus is primarily infects the central nervous system, encephalitis is the primary illness that occurs. For people who do survive the infection long term disabilities of the central nervous system are usually the outcome. According to the CDC the incidence of West Nile Virus is increasing rapidly at a frightening pace. A true danger to the health of our human population. For these reasons and many more it is critical that we maintain excellent bat populations throughout this country to rid us of the many pests that they control for us.	Operation of the proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to birds and bats. The resulting magnitude of impacts of the Project on local and regional bat populations would be so small as to not appreciably reduce the pest control benefits of bats.
0046-1	By protecting bats in other areas, it appears that a no net loss plan is globally acceptable, but the truth is that our local environment will suffer dramatically. Too many bats here will be lost because Buckeye Wind will do nothing to mitigate the killing.	The HCP has used best available science and coordination with experts in the field to minimize impacts to bats. Minimization measures, including the use of feathering and cut-in speeds, that have been proven to significantly reduce bat mortality at multiple other sites, are proposed in the HCP. Further, habitat impacts are limited to a maximum of 16.8 acres which is 0.2% of forested habitat within the Action Area. The resulting magnitude of impacts of the Project on local and regional bat populations would be so small as to not appreciably reduce the pest control benefits of bats. Mitigation is proposed outside of the Action Area because Indiana bats and other Myotis species summer and

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		winter in different areas. Protection of habitat surrounding winter hibernacula may benefit bats within the project area, by protecting the habitat they depend on in the winter and during late fall and early spring.
0046-2	Killing bats, not just the endangered Indiana bat, but other species as well, will upset our local ecosystem by eliminating a major predator of flying insects. This in turn will cause the number of mosquitoes and other flying insects to swell, impacting my family's and neighbors' ability to enjoy outdoor activities such as golf and horseback riding within the footprint of the wind farm. Even an evening spent on the patio or a day working in the yard will not be the same for more than 1000 families in the immediate area.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats.
0046-3	The spread of disease will also surely be affected.	Operation of the proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to birds and bats. The resulting magnitude of impacts of the Project on local and regional bat populations would be so small as to not appreciably reduce the pest control benefits of bats or increase the occurrence of mosquito-bourne illnesses.
0046-4	The loss of bats is just one of many negative impacts of the wind farm on our area. Please consider that the local bat population and the residents of Champaign County will suffer directly as a result of Everpower's current proposal. Please protect our local environment and people by demanding more of the Buckeye Wind project.	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife and the human environment.
0047-1	This is not an isolated area with minimal population, but a mix of intense human development interwoven with patches of rural acreage and animal habitat, a mix that makes Champaign County a great place to live for both people and wildlife, a place of ecological balance.	Land use within the Action Area is discussed in Section 4.7 of the EIS.
0047-2	Our land is used for both conventional farming and a small organic farming enterprise, both of which are dependent on bats for pest control.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats.
0047-3	As we increasingly try to move away from intensive pesticides for the sake of our environment, wildlife and human life, it doesn't make sense to undermine nature's pest controls and, as a result, destroy the ecological balance we are charged with overseeing.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0047-4	US Fish and Wildlife Services has a mandate to help maintain this balance and should require Buckeye Wind to operate under Alternative A, with maximum restrictions,	Thank you for your comment.

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	denying Buckeye Wind's plan.	
0047-5	As it stands, Buckeye Wind's plan takes profits into consideration more than the welfare of the environment, and isn't welfare of the environment the whole reason Buckeye Wind wants to install utility-scale turbines in the first place?	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife and the human environment.
0048-1	If you issue a permit to Buckeye Wind PLEASE make it a conditional use to help protect the bat population.Shut down at night when the bats are active.	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife and the human environment. Feathering has been shown to reduce bat mortality and will used as a minimization measure in the proposed Project. Feathering will occur during the nighttime hours, with cut-in speeds determined based on season and location.
0048-2	White Nose Syndrome is killing them fast enough without wind turbines help.	The HCP has considered potential impacts to Indiana bats and has included the impacts of WNS in that evaluation.
0048-3	The bats benefit everybody by controling insects.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0048-4	PLEASE select the No Action Alternative and deny the ITP for Buckeye Wind.	Thank you for your comment.
0049-1	The bat population is so critical to controlling insects.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats.
0049-2	I ask that this project be made to adhere to very strict restrictions concerning its location and operation.	The siting criteria and operational restrictions for the Proposed Action and alternatives are presented in Section 3 of the EIS (Proposed Action and Alternatives).
0049-3	Nature’s way is always better than any man made control of insects. We must preserve and protect.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0050-1	In September 2011 in the Kansas City Gazette, a boston bat researcher was quoted talking about the upcoming massive bat die-off in the next 3 years. Why? fungus and turbines. His conservative estimate for the economic impact in the	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce

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	MidWest is anywhere from 3.7-53 Billion $/year.	impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use. The cumulative effects of wind power developments on bats are discussed in 5.15.5 of the EIS.
0050-2	In July 2011 in the Pittsburgh Post-Gazette, researchers suggest that the average turbine killed 25 bats/year in PA. Each turbine is responsible for eating an average of 17 million bugs/yr. In all of PA, they suggest that bats saved farmers $278 million dollars in pesticides.	Operation of the proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to birds and bats. The resulting magnitude of impacts of the Project on local and regional bat populations would be so small as to not appreciably reduce the pest control benefits of bats and warrant increased pesticide use. The cumulative effects of wind power developments on bats are discussed in 5.15.5 of the EIS.
0050-3	In this struggling economy, with inflation clearly rising at the grocery store, how can you support a project that will cost our farmers millions-billions of $? Those costs will be passed on to the residents of Ohio and others.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0050-4	Additionally, the enormous increase in the use of pesticides will harm all of us and run-off into our waterways.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0050-5	The bats are being destroyed by the white-nosed syndrome and they don't need an additional destroyer to dessimate their entire population.	The HCP has considered potential impacts to Indiana bats and has included the impacts of WNS in that evaluation.
0050-6	Finally, the West Nile Virus has entered Ohio. If we destroy the bats, no one will be safe going outside.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats.
0051-1	Have you considered that some of these positive comments for Buckeye Wind are being made by the lease holders? They will benefit financially.	Thank you for your comment.
0052-1	I recently learned that our federal and state governments are issuing permits to kill birds and bats via wind turbines. As a former biology teacher, I find this an atrocious act by our government and by any organization that is committed to preserving wildlife.	Incidental Take Permits under Section 10(a)(1)(B) of the Endangered Species Act can be issued to authorize take of a federally-listed endangered or threatened animal that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity, as long as the permit application meets the

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		criteria in 10(a)(2)(A), and as long as the conditions established in 10(a)(2)(B) are met.
0052-2	As a farmer and biologist I know that bats, especially, are much needed to lessen the use of pesticides,	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0052-3	This kind of irresponsibility (to allow incidental killing of bats) would also affect the livelihood of my neighbors and myself. We would have to spend more on pesticides. This pesticide increase could also jeopardize the health of anyone who consumes food.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0052-4	The bat population is already fighting for its very life due to a fungal attack.	The HCP has considered potential impacts to Indiana bats and has included the impacts of WNS in that evaluation
0052-5	Please do not issue permits to these wind turbine companies who only exist because we, the taxpapers, are subsidizing something that is inefficient (such as - most of us would like to have electricty even when the wind is not blowing), expensive (countries such as Denmark who depend on wind energy pay much more of electricity than the US does), etc.	Thank you for your comment.
0052-6	Please do not allow these companies, such as Buckeye Wind Power Project, to allow this devastating blow to our environment. Projects, such as this, will be instrumental in upsetting the precious balance of nature.	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife.
0053-1	We have an old barn, yes it is falling down, but my the amount of bats that are living in it is quite high. There is an occasional owl too. But the point is they come out every night in the summer and gobble up all those bothersome insects.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats.
0053-2	We have quite a large garden and use no pesticides we harvest and can up all that we grow.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0053-3	Boston University estimates cost in extra pesticides to Champaign Co. farmers could be as much as 12 million annually in increased pesticide costs from the loss of bats	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats,

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	due to Wind Turbines and White Nose Syndrome.	those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0053-4	Just what we want more pesticides leaching into our ground/drinking water!	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0053-5	Also my husband likes to golf and there are 2 golf courses in these areas where they are slated to go. I've driven thru these wind farms and I could feel the air change. So it just may have an affect on one's golf swing too!	Thank you for your comment.
0053-6	EverPower, Buckeye Wind whatever they are calling themselves today NEED TO OPERATE under ALTERNATIVE A , abide by the most stringent restrictions! We'd like to see the project denied but if not they must operate under Alternative A.	Thank you for your comment.
0053-7	And when the Wind Turbine Mfgs. say they should not be placed within 1.3 miles from an occupied dwelling EverPower/Buckeye Wind should do what the Mfgs. say.	The 100 turbines will be sited in locations consistent with OPSB-required setbacks from property lines and residential structures. Advanced engineering and micro-siting was used to ensure that turbines would not be constructed unless the setback requirement would be met or an appropriate waiver would be executed (EDR 2009a). Siting and Setback criteria from residences to protect Health and Safety are addressed in Section 5.14 of the EIS.
0053-8	Wind has had no oversight committee and they are getting away with murder literally.	As described in Section 2.7 of the HCP (Public Participation), the Applicant has followed all appropriate procedures and made adequate public disclosures related to the Project. As described in Section 2.4 of the EIS (Public and Agency Involvement), impacts related to safety, environmental and economic conditions have been adequately addressed through the Ohio Power Siting Process and through the analysis in the EIS.
0054-1	It is important that our Federal agencies protect the interests of the clear majority of American citizens. In the footprint of the proposed wind facility, leaseholders are the clear MINORITY of the citizens.	The EIS has considered potential impacts to the human environment.
0054-2	It is therefore imperative that bats are preserved from potential killing by wind turbines at maximum protection - this does not include a 'kill or take allowance'.	Thank you for your comment.
0054-3	Our countryside is highly populated compared to other wind facilities across the U.S.	Land Use within the Action Area is discussed in Section 5.7 of the EIS.

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0054-4	Our citizens work and play and socialize in the outdoors. Farm crops are grown on our own property on the acreage which is not occupied by our home; we grow a large vegetable garden which feeds friends and a large number of family members.	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife, and the human environment.
0054-5	We enjoy nature particularly during the summer months, when bats are feeding on - and controlling the number of - mosquitos which can make us ill as well as other insects which are known by the farming community to devastate crops.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats, or increase the incidence of mosquito-bourne illness.
0054-6	To make allowances for a for-profit firm to get a free-pass to kill various forms of wildlife in the interest of corporate profits is just plain wrong and a misuse of federal authority and tax funds.	Incidental Take Permits (ITPs) under Section 10(a)(1)(B) of the Endangered Species Act can be issued to authorize take of a federally-listed endangered or threatened animal that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity, as long as the permit application meets the criteria in 10(a)(2)(A), and as long as the conditions established in 10(a)(2)(B) are met. Further, ITPs require continued monitoring and adaptive management throughout the life of the permit to ensure that taking would not be exceeded, and that there is consideration of and responses to a variety of potential changed circumstances over the course of the permit. Inclusion of adaptive management and changed circumstances addresses the need for flexibility over the long-term, should assumptions (e.g., the effectiveness of specific cut-in speeds) be proven inadequate or the status of the species (e.g., white nose syndrome) change. Take allowances under the ESA do not constitute a "free-pass to kill various forms of wildlife."
0054-7	To the decision-makers involved in this U.S. Fish and Wildlife Service decision, DO YOUR JOB - the one that the majority of the citizens in the wind facility footprint are paying taxes for - stop the politics of catering to a private industry's insatiable appetite for maximum subsidies and profits	Thank you for your comment.
0054-8	and make sure that you select the Preferred Alternative of No Action alternative and deny the requested ITP. In the alternative, the U.S. Fish and Wildlife Service should require that the Buckeye Wind project operate under Alternative A Maximally Restricted.	Thank you for your comment.
0055-1	I attended the meeting at the Community Center and I feel Buckeye Wind Project and USFW have been and are still working closely to enhance wildlife and provide an improved environment for wild life and people. Let's all come together.	Thank you for your comment.
0056-1	There is no question that wind turbines kill bats. Without a strong bat population, the insect population will surge, thus affecting the health and quality of life of the people who	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats,

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	live in the area.	those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0056-2	Without our bat population, we would be forced to use greater amounts of pesticides/insecticides which are expensive and unsafe.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0056-3	If not, adults and children are at great risk of disease, specifically West Nile Virus which is carried by infected mosquitos. West Nile Virus has caused numerous deaths across our nation. The number of deaths this year were the highest ever, even with public education about the disease. Without a strong bat population, deaths would multiply. The welfare of our community is at risk without sustaining our bat population, and sustaining our environment.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0057-1	Let me state that I oppose these huge industrial wind turbines and the impact they will have on the integrity of the county that I have called home since 1972.	Thank you for your comment.
0057-2	I believe the Everpower Preferred Alternative is an unacceptable risk to the Indiana Bat and other species.	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife.
0057-3	I would strongly request the U.S. Fish and Wildlife select the NO ACTION ALTERNATIVE and deny requested ITP. In the alternative, and this is not a first choice, I believe Buckeye Wind Project should be required to operate under nothing less than what is called Alternative A (Maximally Protected).	Thank you for your comment.
0057-4	The decisions you are making at this time, which could effect the pesticides and insecticides Champaign County residents are exposed to because of disturbing the balance of nature, will be changed.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0057-5	A wise decision is one that is completely thought out, not made for the profit of a few. I ask that you consider this request as if it were happening in your own community, next to your own home.	Thank you for your comment.
0058-1	Mosquitos which are known to transmit disease are eaten by the bats located in the footprint of the proposed wind facility. Other insects are also eaten by the bats - insects which are well-known to the farming community as damaging to crops.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of

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		the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats, or increase the occurrence of mosquito-bourne illness.
0058-2	Fewer bats will eat less insects leading to a much greater need for pesticides on farm crops - with probable residual affects on the air we breathe when we're outside, drifting of pesticides to gardens that we eat, lawns that we play on, and leaching into the water we drink.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0058-3	My message is simple: the Everpower Preferred Alternative poses an unacceptable risk to the Indiana bat and other species.	Thank you for your comment.
0058-4	The Everpower Preferred Alternative is a blatant corporate maneuver to maximize profits to this private firm at the expense of potential health issues & crop/garden/water damage for the majority of the citizens in the footprint of the proposed wind facility.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0058-5	The U.S. Fish and Wildlife Service should select the No Action alternative and deny the requested ITP. In the alternative, the U.S. Fish and Wildlife Service should require that the Buckeye Wind project operate under Alternative A (Maximally Restrictive).	Thank you for your comment.
0059-1	I have faith that the USFWS will choose NO ACTION, denying EverPower's ITP. The Buckeye Wind Project should be deemed operational only under Alternative A--Maximally Restricted.	Thank you for your comment.
0059-2	Considering the role bats, and the endangered Indiana Brown Bat in particular, play in the lives of Ohioans, it seems irresponsible, unconscionable, and greedy for EverPower --regardless of economic cost to EverPower--to not willingly propose to operate only under Alternative A. Bats are crucial to the health and economy of those who live in, near, or travel to or through the proposed project area.	Thank you for your comment.
0059-3	If the ITP is approved as proposed, the resultant increased use of pesticides to protect human and animal health from insect-borne disease, agricultural production from imbalanced ecology, and residences and businesses from being financially affected by increased insect infestations will be a huge hardship, if not financial ruin, for those who must pay.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0059-4	Also, the cost in human and animal health from exposure to excess pesticides is unconscionable.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats,

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		those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0059-5	Many of the dollars it would take to operate under Alternative A come from tax dollars anyway, so, I ask USFWS to not allow this project to tax Ohioans twice, thrice, etc. with their health and resources.	Thank you for your comment.
0060-1	I am concerned that the reporting is to be done by the applicant.	Monitoring will be conducted by a third party consultant qualified to conduct post-construction mortality monitoring (see Section 6.5.2 of the HCP [Methods for Minimization Monitoring]). The Applicant will contract with and pay the consultant to do the work, but the USFWS and ODNR will approve the selection of the consultant. The USFWS will review the monitoring methods and results and reports to ensure that the work is being done as described in the HCP. Further, the USFWS will have an incidental take permit condition that allows access to the Project site for monitoring purposes.
0060-2	I am concerned that a number of comments in support are made by leaseholders who in their comments do not disclose their monetary relationship to the applicant.	Thank you for your comment.
0060-3	I am in opposition to application also because bat deaths are in addition to other health issues for the bat populations, including White Nose Syndrome, whose effects are not yet completely known and understood.	The HCP has used best available science and coordination with experts in the field to estimate impacts from WNS as closely as possible (See HCP Sections 4.5.3 [Disease and Parasites], 5.1.2.7.4 [Population Declines from White Nose Syndrome], 5.1.2.7.5 [Take Reductions as a Result of White Nose Syndrome], and 7.2.1.2 [White Nose Syndrome]). Further, Section 5.15.5 of the EIS (Threatened and Endangered Species and Non-Listed Bat Species) discusses the cumulative effects on bats from wind turbines and other threats, including WNS.
0060-4	I am in support of Denial of the application or the use of Alternative A.	Thank you for your comment.
0061-1	Current Indiana Bat populations at risk from White Nose Syndrome require greater protection for the Indiana Bat populations and their habitat. Everpower is dismissive of the White Nose Syndrome issue.	The analysis of the impacts to the species in the HCP Sections 5.1.2.7.4 and 5.1.2.7.5 include consideration of population declines due to WNS within the baseline analysis. Furthermore, Buckeye Wind has committed to reducing their requested take if WNS reduces the population by 50% to try and further minimize the impacts of the taking on the population.
0061-2	The mortality monitoring program in Everpower's plan is inadequate based upon USFWS previously approved plans.	It is unclear what “USFWS previously approved plans” the commenter is referring to. The proposed mortality monitoring protocol for the Buckeye Wind project uses peer-reviewed methods of conducting post-construction mortality searches for birds and bats at wind facilities, including

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		correction factors for biases. Monitoring will be conducted by a third party consultant qualified to conduct post-construction mortality monitoring (see HCP Section 6.5.2). The Applicant will contract with and pay the consultant to do the work, but the USFWS and ODNR will approve the selection of the consultant. The USFWS will review the monitoring methods and results and reports to ensure that the work is being done as described in the HCP. Further, the USFWS will have an Incidental Take Permit condition that allows access to the project site for monitoring purposes.
0061-3	Economic feasibility is irrelevant when determining an effective plan for protecting an endangered species.	The HCP Handbook describes two factors that are taken into account when determining if an application for an ITP minimizes take to the maximum extent practicable: adequacy of the minimization and mitigation program and whether it is the maximum that can be practically implemented by the Applicant. The HCP Handbook states that "to the extent maximum that the minimization and mitigation program can be demonstrated to provide substantial benefits, less emphasis can be placed on the second factor." Thus, an assessment of economic feasibility can be considered in part of the assessment of the "maximum that can be practically implemented by the Applicant," particularly if the mitigation does not fully offset the impact of the taking.
0061-4	Everpower appears more concerned with controlling their costs rather than protecting endangered species and their habitat.	Thank you for your comment.
0061-5	The public expectations is that USFWS will live up to your mission statement and put the needs and concerns for endangered species and the habitat that they depend upon first. Failure to do so puts endangered species at greater risk and diminishes public confidence in your agency.	Incidental Take Permits under Section 10(a)(1)(B) of the Endangered Species Act can be issued to authorize take of a federally-listed endangered or threatened animal that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity, as long as the permit application meets the criteria in 10(a)(2)(A), and as long as the conditions established in 10(a)(2)(B) are met.
0061-6	Deny the Buckeye Wind Power Project permit.	Thank you for your comment.
0062-1	As President, Urbana University I am committed to this University walking the talk of sustainability in how we manage our infrastructure, our grounds, and our curriculum. Our campus lies just to the west of the proposed Buckeye Wind Power Project. September 24, 2012 we broke ground on campus for a 500 kilowatt solar photo-voltaic array and we plan other renewable energy pilot-scale operations, including a wind turbine (<100 feet). I am writing in support of the Buckeye Wind Power Project.	Thank you for your comment.
0062-2	As a Ph.D. in forestry and natural resources I can offer scientifically objective assessment of the project and in particular the efficacy of the firm's tremendous efforts to understand and minimize potential wildlife impacts. I see an exhaustive effort by the project team to assure minimum	Thank you for your comment.

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	environmental impact.	
0062-3	I am impressed that the Buckeye project is endorsed by the Agency.	The USFWS does not endorse projects. The purpose of the EIS is to assist the USFWS in its decision on whether to approve an Incidental Take Permit (ITP) for the proposed Buckeye Wind Project.
0062-4	I view the Bat Protection Plan as an informed, workable, thorough, and balanced approach to species protection and energy production. I am eager to see the Buckeye Project take shape, a reality that will enhance our sustainability thrusts and education programs at UU.	Thank you for your comment.
0063-1	Bat colonies are already under stress due to the White Nose Syndrome. It is imperative that the Indiana bat and other species be protected.	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife.
0063-2	The most stringent restrictions for bat safety (Alternative A) must be implemented to insure these most valuable, insect devouring assests to our environment have a fighting chance for survival.	Thank you for your comment.
0063-3	We rely on the many bats that inhabit our woods for insect control.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0063-4	We have an organic garden and grow grain crops. Again, the bats are a great help in these endeavors, consuming their own body weight in insects on a daily basis.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0063-5	Boston University estimates that Champaign County will see a $12 million annual increase in the cost of pesticide use if bats are made to endure the additional stress of surviving the atmospheric nightmare of 100+ monstrous wind turbines.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0063-6	The Everpower Preferred Alternative poses an unacceptable risk to the Indiana bat and other species.	Thank you for your comment.
0063-7	U.S. Fish and Wildlife Service should select the No Action alternative and deny the requested ITP. In the alternative, the U.S. Fish and Wildlife Service should require that the Buckeye Wind project operate under Alternative A (Maximally Restricted).	Thank you for your comment.

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0064-1	I support the plan as laidout by Bukeye Wind to protect and enhance wildlife while protecting our environment.	Thank you for your comment.
0064-2	The Buckeye Wind Project will benefit our community and our nation.	Thank you for your comment.
0065-1	I support the plan as laidout by Bukeye Wind to protect and enhance wildlife while protecting our environment.	Thank you for your comment.
0065-2	The Buckeye Wind Project will benefit our community and our nation.	Thank you for your comment.
0066-1	I support the plan as laidout by Bukeye Wind to protect and enhance wildlife while protecting our environment.	Thank you for your comment.
0066-2	The Buckeye Wind Project will benefit our community and our nation.	Thank you for your comment.
0067-1	3.1.2, E-10: Please specify the manufacturer's cut-in speeds for the turbines under consideration. If some turbines will be operating at normal cut-in speeds, it is important to know at what speeds they will operate (e.g., 3.0 m/s, 3.5 m/s).	Section 2.2.1 of the HCP describes that the specific turbine model has not yet been selected, but that commercially available turbine models being considered for the Project are essentially uniform in terms of dimensions, appearance and electrical output design. The "Rotor" Section further states that the turbines will begin generating energy at wind speeds as low as 3 to 3.5 m/s. Regardless of the manufacturer cut-in speed, the feathering plan as described in Table 5.4a of the DHCP will be implemented under the Preferred Alternative. The only instance in which the manufacturer cut-in speed will affect the feathering plan is in Category 4 in the spring; the perceived lowest risk time and habitat for take of Indiana bats and other bats. During time periods and seasons not covered under Table 5.4a, Indiana bats are not expected to be at risk, under any cut-in speed.
0067-2	Fall Feathering Plan, 3-12, 2nd paragraph: There is no mention of temperature being part of the proposed action in spring or summer. It is confusing as to why temperature would be incorporated in fall, when bats are most vulnerable, and not in spring or summer. If temperature is going to be part of the proposed action, it should occur in all seasons. Temperature is not mentioned in the entire document other than this paragraph. Using 50 °F as the determination for operational changes if fall may be too high, if the goal is to minimize the potential take of an Indiana bat. Fall is the most dangerous period for fatalities, including Indiana bats. Therefore, it may be more appropriate to lower the temperature requirement to 45 °F to reduce the risk of take.	The HCP and the EIS have both been revised to make it more clear that under the HCP, the 50 degree temperature threshold would apply throughout the active period for the Indiana bat. The DHCP bases the temperature threshold on evidence discussed in section 4.5.6.4 – Influence of Weather. There is no evidence to support a position that a lower threshold temperature would significantly reduce risk to Indiana bats.
0067-3	3.3 Alternative B, 3-20: Please specify if temperature would also be included in this alternative. If only recommending fall, it may be more appropriate to expand the period of changing operations from beginning 1 August to beginning 1 July. Is there enough confidence that 5.0 m/s is adequate, that fall is the only period of risk, and that 1-6 hours after sunset is sufficient to reduce risk of take?	This comment refers to the Minimally Restricted Operations Alternative, and the thresholds and dates selected were based on extensive research into bat mortality. This alternative would allow for more operation of the wind facility, therefore generation of more clean energy, while reducing risk to Indiana bats, as well as non-listed bats during the fall migration, the period of greatest risk.

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0067-4	Table 3.5-1, HCP, 3-21: Under Alternative A, would the 3 known roosts be removed? These known locations should still be protected regardless of turbine operations.	The three roost trees would not be removed and would be protected under all alternatives. The EIS Section 3.5 has been updated to include this information.
0067-5	Bats, 4-33: These dates do not encompass the period of risk for Indiana bats. The first year is only 2 months and misses most of August, which is part of the fall migration period. The second year misses almost all of September and October. This period represents the time when Indiana bats migrate. Moreover, the Indiana bat kills that have occurred were in September.	The survey methodology was conducted in accordance with a work plan developed by Stantec in coordination with USFWS and ODNR DOW. The surveys were conducted over 2 calendar years, but were designed to provide coverage for one complete survey year. In aggregate, the surveys cover March 29 to October 29 and should not be viewed as 2 separate surveys, each inadequate in capturing the full season (ODNR protocol calls for 1 year of pre-construction acoustic surveys). The acoustic surveys were conducted in accordance with guidance from the ODNR. While the survey took place over two calendar years, the effort was sufficient to cover a full survey year. Further, the purpose of the acoustic monitoring per the ODNR protocol was to provide data on all bat use of a wind project area, not to detect the presence/absence of Indiana bats.
0067-6	Figure 4.4-4, 4-34: These data are not comparable and should not be presented side by side. The study periods for each year were completely different.	Figure 4.4-4 and related text was revised to clarify the information presented and intent of the figure.
0067-7	Table 5.4-3, 5-38: Good et al. 2012 is available for the 2nd year of study at the Fowler Ridge Wind Facility.	The second year of post construction data at the Fowler Ridge Wind Farm confirms the general trends that have been shown from the previous data. The 2011 Fowler Ridge results provide further demonstration that a) increased cut-in speeds can significantly reduce bat mortality at wind farms, and b) the higher the cut-in speed, the greater the mortality reductions. Additional information will continue to become available and it is not practical to continue to make adjustments to the HCP to account for newly available data when that data does not add significantly to the understanding of risks and impacts. A footnote has been added to Table 5.4-3 in the EIS and Table 5.4b in the HCP to acknowledge this additional data. Some discussion has also been added in the text of the HCP in Section 4.5.5.4.
0067-8	Impacts to the Midwest Recovery Unit Population, 5-54, last paragraph: With everything we know about the devastating impacts of WNS on bats, in general, and Indiana bats, in particular, discussing increases in the overall population and population of the Midwest Recovery Unit seems inappropriate. Please review Turner et al. 2011 A five-year assessment of mortality and geographic spread of white-nose syndrome in North American bats and a look to the future (Bat Research News) and Throgmartin et al. 2012 Population-level impact of white-nose syndrome on the endangered Indiana bat (Journal of Mammalogy).	Comment noted; however, it is accurate to state that the status of the species within the Midwest RU within the past several years has been increasing. We do expect to see population declines within the Midwest RU due to WNS, and this is discussed in the same paragraph that the commenter refers to. Data from the two studies referenced by the commenter and other studies related to the five year assessment of White Nose Syndrome are included in HCP Section 4.1.1 and the EIS Section 5.5.2.
0067-9	ES-2, Line 4: "…interactions and no HCP would implemented". Insert "be" between would and	Text has been edited as suggested.

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	implemented.	
0067-10	Chapter 5-Environmental Consequences, 5-24, 4th bullet: Include citations for data on effectiveness of raising cut-in speed to reduce bat fatality.	Text has been edited as suggested.
0067-11	Table 5.5-2, 5-47: What does the '*' indicate in the column 'Total Removed from Action Area Ha (ac)'?	This was a typographic error. "*" has been deleted from table.
0067-12	Pg 7, 1st full paragraph: Please specify if curtailed turbines will be rotating at high RPM's below cut-in speed. Recommend that all turbines should be feathered or rotating at extremely low (or "free/pin-wheeling) RPM's prior to cut-in regardless of season or category.	As provided in the HCP, the turbines will be operated under the manufacturer's preferred parameters during non-active periods for Indiana bat (all hours from November 1 to March 31, and from ½ hour after sunrise to ½ hour before sunset from April 1 to October 31). Turbines will be feathered prior to cut-in speeds specified as part of the minimization measures and as indicated in Table 6-2 of the HCP when Indiana bats are at risk, from ½ hour before sunset to ½ hour after sunrise from April 1-October 31.
0067-13	2.2.1 Rotor pg. 22: Difference in manufacturer's cut-in speed could be a significant factor in bat fatalities (3.0 m/s vs. 3.5 m/s) if operating normally. Bats are more active at lower wind speeds, and the 0.5 m/s difference means blades will be spinning at high RPMs for a longer period of time (i.e., at lower wind conditions).	Section 2.2.1 of the HCP describes that the specific turbine model has not yet been selected, but that commercially available turbine models being considered for the Project are essentially uniform in terms of dimensions, appearance and electrical output design. The "Rotor" Section further states that the turbines will begin generating energy at wind speeds as low as 3 to 3.5 m/s. Regardless of the manufacturer cut-in speed, the feathering plan as described in Table 5.4a of the DHCP will be implemented under the Proposed Action. The only instance in which the manufacturer cut-in speed will affect the feathering plan is in Category 4 in the spring; the perceived lowest risk time and habitat for take of Indiana bats and non-listed bats. During time periods and seasons not covered under Table 5.4a, Indiana bats are not expected to be at risk, under any cut-in speed.
0067-14	3.3.3.1 Bat Acoustic Surveys: Neither year of study encompassed the period of greatest risk for Indiana bats completely. The first year of study is only 2 months and misses most of August, which is part of the fall migration period. The second year misses almost all of September and October. This period represents the time when Indiana bats migrate. Moreover, the Indiana bat kills that have occurred were in September.	The survey methodology was conducted in accordance with a work plan developed by Stantec in coordination with USFWS and ODNR DOW. The surveys were conducted over 2 calendar years, but were designed to provide coverage for one complete survey year. In aggregate, the surveys cover March 29 to October 29 and should not be viewed as 2 separate surveys, each inadequate in capturing the full season (ODNR protocol calls for 1 year of pre-construction acoustic surveys). The acoustic surveys were conducted in accordance with guidance from the ODNR. While the survey took place over two calendar years, the effort was sufficient to cover a full survey year. Further, the purpose of the acoustic monitoring per the ODNR protocol was to provide data on all bat use of a wind project area, not to detect the presence/absence of Indiana bats.

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0067-15	4.1.1 White-nose Syndrome, pg 58: suggest including Turner et al. 2011 A five-year assessment of mortality and geographic spread of white-nose syndrome in North American bats and a look to the future (Bat Research News) and Throgmartin et al. 2012 Population-level impact of white-nose syndrome on the endangered Indiana bat (Journal of Mammalogy) in this section.	The Thogmartin study and other studies related to the five year assessment of White Nose Syndrome are included as appropriate. See HCP Section 4.1.1 and EIS Section 5.5.2.
0067-16	Table 5-4b, pg. 127: Good et al. 2012 (2nd year of curtailment at Fowler Ridge) is available and should be incorporated into this discussion.	The second year of post construction data at the Fowler Ridge Wind Farm confirms the general trends that have been shown from the previous data. The 2011 Fowler Ridge results provide further demonstration that a) increased cut-in speeds can significantly reduce bat mortality at wind farms, and b) the higher the cut-in speed, the greater the mortality reductions. The numbers were not included in the take estimate calculation because the second year of the study did not evaluate a range of cut-in speeds consistent with the range being considered in the HCP. Good et al. 2012 looked at cut-in speeds at 3.5 m/s, 4.5 m/s and 5.5 m/s, which is a different range of cut-in speeds than is being proposed initially at the Project. A footnote was added to Table 5.4b to acknowledge that additional data is available. Some discussion has also been added in the text of the HCP in Section 4.5.5.4.
0067-17	6.2.2 Project Operation and Maintenance, pg. 170: To date, there is no evidence that incorporating temperature into the operational mitigation strategy is effective in reducing bat fatalities. Data on specific conditions when bats interact with turbine blades is limited. Incorporating temperature is one means of optimizing this strategy, but it should first be tested before implemented. If temperature is to be incorporated, there should be more of a buffer for when bat activity typically decreases, particularly during the period when bats appear to be most vulnerable (i.e., the fall season). Recommend using 45 °F as the cut-off during fall.	The HCP bases the temperature threshold on evidence discussed in Section 4.5.5.4 of the HCP (Influence of Weather). There is no evidence to discount the discussion in Section 4.5.5.4 of the HCP or to support a position that a lower threshold temperature would significantly reduce risk to Indiana bats.
0067-18	Table 6.2, pg. 173: Please include temperature in the title. Incorporating temperature into the minimization strategy gets lost in this document.	Reference to the temperature thresholds will be included as a note to the table.
0067-19	Fall Feathering Plan, pg. 174: Please include in the text the cut-in speed for categories 2–4.	The cut-in speeds for Categories 2-4 will be included in the text.
0067-20	6.5.2.4 Search Frequency: Recommend daily searching for turbines in Category 1 (highest risk), particularly in fall.	The HCP proposes that all turbines in all Categories are searched using a 3 day search frequency. Using a 3-day search interval allows mortality searches to occur at a subset of the turbines every day of the week throughout the survey period. The 3-day search interval is preferable when the goal of the monitoring is to detect a rare event, such as an Indiana bat fatality. The commenter does not offer evidence that one-day search intervals would be necessary in Category 1.

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0068	This is exact duplicate of comments received and itemized in comment 0045.	See Response to Comments 0045-1 to 0045-16.
0069-1	The Everpower Preferred Alternative poses an unacceptable risk to the Indiana bat and other species.	Thank you for your comment.
0069-2	U.S. Fish and Wildlife Service should select the No Action alternative and deny the requested ITP. In the alternative, the U.S. Fish and Wildlife Service should require that the Buckeye Wind project operate under Alternative A (Maximally Restricted).	Thank you for your comment.
0070-1	It seems counterintuitive to me to allow the wind industry to be permitted to kill a certain number of animals each year regardless of if they are an endangered species or not, when if any homeowner or anyone else harmed a hawk, bald eagle, Indiana bat or other species (all of which are known to frequent this area of Champaign County), they would face stiff penalties up to and including jail time.	Incidental Take Permits under Section 10(a)(1)(B) of the Endangered Species Act can be issued to authorize take of a federally-listed endangered or threatened animal that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity, as long as the permit application meets the criteria in 10(a)(2)(A), and as long as the conditions established in 10(a)(2)(B) are met.
0070-2	We are not so desperate for energy in the state of Ohio that it makes environmental or business sense to kill or otherwise harm our wildlife and their habitats.	Thank you for your comment.
0071-1	The setbacks are untenable for towers this size,	The 100 turbines will be sited in locations consistent with OPSB-required setbacks from property lines and residential structures. Advanced engineering and micro-siting was used to ensure that turbines would not be constructed unless the setback requirement would be met or an appropriate waiver would be executed (EDR 2009a).
0071-2	and the sheer number if turbines that Everpower is trying to erect in Champaign County is absurd.	Thank you for your comment.
0071-3	Hundreds of homes will be in this wind plant, and this will completely alter a way of life.	The EIS has considered potential impacts to the human environment.
0071-4	What is currently rural, residential, and agricultural will be industrial, through a process without proper zoning or common sense regulation.	Impacts to Land Use within the Action Area are described in EIS Section 5.7. Due to the small amount of land required for the construction of the Project relative to the overall Action Area, the Project would not directly impact the predominantly agricultural land use pattern of the Action Area and surrounding vicinity. However, construction activities would be inconsistent, albeit largely temporary, with "the preservation of the rural character", a common goal of the comprehensive plans for communities within five miles of the Action Area.The presence of heavy construction equipment, workers, and increased traffic are not typically associated with rural-agricultural or rural residential areas (although dust, noise, and the occasional presence of large construction equipment, large farm machinery on public roads are byproducts of agricultural operations). These impacts are not anticipated to occur in areas used for recreation, such as golf courses or parks. Any such effects would be short-term and would last only until construction

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		activities were completed.
0071-5	As wind turbines cause light and noise pollution,	Sections 5.8 and 5.10 of the EIS (Environmental Consequences) evaluate effects on visual resources, and effects from noise, respectively.
0071-6	they devalue property,	As indicated in several professional and academic studies, no conclusive evidence is available to suggest that property values decrease when a wind farm is placed in proximity to a residential structure. However, the studies also indicated that perception can play a role in determining the value of a property. A more detailed discussion of property values is included in Section 4.9 of the EIS (Socioeconomics and Environmental Justice).
0071-7	and also kill bats and birds,	The bird and bat impact analysis conducted for and documented in the EIS and HCP includes a large volume of data and information collected through research and post-construction studies from other wind projects around the world. The analysis reflects the state of the science as it is known today. The proposed Project includes a robust monitoring program which will collect Project-specific data on the effects of the Project on Indiana bats (and birds and other bat species as well) should it move forward. This information will feed into the Project's adaptive management plan through which corrective actions to reduce impacts on Indiana bats will be implemented if and when necessary.
0071-8	and industrializing the eastern half of Champaign County is not a viable answer for the future of this community.	Thank you for your comment.
0072-1	I feel that Buckeye Wind and Everpower are doing a great thing by protecting the Indiana Bat. They have gone the extra mile.	Thank you for your comment.
0072-2	I feel that WIND ENERGY is the way of the future and we need to make sure we are progressing in that direction.	Thank you for your comment.
0073-1	I have learned that setbacks for the proposed wind turbines in Champaign County are less than 1000 feet from non-participating neighbors.	The 100 turbines will be sited in locations consistent with OPSB-required setbacks from property lines and residential structures. Advanced engineering and micro-siting was used to ensure that turbines would not be constructed unless the setback requirement would be met or an appropriate waiver would be executed (EDR 2009a).
0073-2	These turbines are scattered throughout our beautiful landscape. This is unexceptable. I have lived in California where wind turbines are in a straight line up and away from all residences, These turbines were not scattered all over the area with no regard for people.	Thank you for your comment.
0073-3	Please review the proposed plan and you will see that it is a bad plan and does not belong in a populated rural county.	The HCP and EIS have considered potential impacts to Indiana bats and other wildlife and to the human environment.
0073-4	The Buckeye Wind Project has no regard for the citizens of Champaign County. Wind Turbines would absolutely ruin this area in more ways than one.	Thank you for your comment.

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0074-1	THE PIQUA SHAWNEE TRIBE HAS BEEN WORKING WITH THE EVERPOWER CORPERATION SINCE PHASE 1 OF THE PROJECT WAS STARTED. WE ARE CONCERNED WITH THE MANY INDIAN MOUNDS THAT EXIST ON OR AROUND ANY TURBINE CONSTRUCTION SITES FOR PHASE 1 AND 2. THE FOLKS FROM EVERPOWER HAVE HELPED US IN ANY WAY THEY COULD TO PROTECT OUR ENDANGERED NATIVE AMERICAN MOUNDS AND EARTHWORKS THAT ARE THOUSANDS OF YEARS OLD.	Thank you for your comment.
0074-2	ALSO AS AN INDIAN TRIBE WE ARE ALSO CONCERNED WITH HISTORIC BURIALS SITES OF OUR RELATIVES.	Archeological surveys have been completed for the first 52 turbines, and no historic burial sites were found. A similar archeological survey will be completed for the additional 48 turbines once siting is completed, and will identify and avoid any other potentially eligible cultural resources, such that no impacts to historic burial sites will occur. This is addressed in Section 5.6 of the EIS.
0074-3	BEING NATIVE AMERICAN WE LIVE CLOSE TO NATURE AND WANT TO PROTECT MOTHER THE EARTH AND ALL THE CREATURES THAT ARE UPON IT. IN THIS LIGHT I HAVE BEEN IN TOUCH WITH EXPERTS AND DISCUSSED THE EFFECTS OF TURBINES ON BIRDS, BATS AND WILDLIFE IN GENERAL. WE REACHED THE CONCLUSION THAT ALTHOUGH THE TURBINES WOULD HAVE SOME NEGATIVE EFFECT ON THESE CREATURES, IT IS MUCH BETTER THAT THE SITE'S BE LOCATED IN FLAT FIELDS VS RIDGES AND HIGH AREAS WHICH TEND TO STEER MIGRATING FLOCKS AND OTHER BIRDS, DIRECTLY INTO LARGE TURBINE LOCATIONS.	Thank you for your comment.
0074-4	I HAVE LIVED IN CHAMPAIGN COUNTRY FOR MANY YEARS AND FINDS THAT EAGLES COME THOUGH THE AREA, ONLY WHEN GOING LONG DISTANCES.	Low densities of raptor species were observed in the Action Area, likely due to the lack of prominent landscape features such as ridges, and it is therefore anticipated that impacts to raptors from the Project would be minor. Any observed road-kill or other dead animals that may attract scavenging raptors such as vultures or eagles would be cleared from within turbine areas, and access roads.
0074-5	ALSO WE HAD NO PROBLEM WITH BATS NOR OTHER BIRDS IN THE PAST.	Thank you for your comment.
0074-6	SO IN GENERAL I SEE NO PROBLEM WITH THE INSTALLATION OF WIND TURBINES IN THE AREA.	Thank you for your comment.
0074-7	I ALSO FEEL THAT IF PROBLEMS WERE TO OCCUR, THAT EVERPOWER WOULD PUT EVERY EFFORT INTO FINDING A SOLUTION.	Thank you for your comment. The Programmatic Agreement included in Appendix L of the EIS discusses how Buckeye Wind will address cultural resources issues, should such issues be encountered, during construction of the Project.
0075-1	It's my opinion as a person who currently lives in the proposed Buckeye Wind Project site that the U.S. Fish and Wildlife Service should require that the Buckeye Wind project operate under Alternative A (Maximally Restricted)	Thank you for your comment.

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0075-2	and Everpower's Preferred Alternative should be opposed because it poses an unacceptable risk to the Indiana bat and other species.	Thank you for your comment.
0075-3	U.S. Fish and Wildlife Service should select the No Action alternative and deny the requested ITP.	Thank you for your comment.
0075-4	Our only alternative to the loss of bats will be to use insecticides and pesticides. These have costs - both financial and environmental - for our families, our children, our pets, livestock and crops.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0075-5	I cannot believe that with a good conscience you could give your approval to a project that would lead to a deterioration of the natural environment in Champaign County.	Incidental Take Permits under Section 10(a)(1)(B) of the Endangered Species Act can be issued to authorize take of a federally-listed endangered or threatened animal that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity, as long as the permit application meets the criteria in 10(a)(2)(A), and as long as the conditions established in 10(a)(2)(B) are met.
0075-6	When you assess whether or not to accept Everpower's proposal, please remember that your decision affects the health and welfare of the people who live there	Sections 4.14 (Health and Safety) and 5.14 (Health and Safety) of the EIS discuss the potential impacts of the Proposed Action and alternatives on human health and safety. Section 5.14 of the EIS describes that the Applicant has taken a number of steps to avoid and minimize impacts to health and safety.
0076-1	I am requesting that the USFWS deny the requested incidental take permit and select the No Action alternative.	Thank you for your comment.
0076-2	In addition, the Buckeye wind project should be required to operative under Alternative A [Maximally Restricted Operations}.	Thank you for your comment.
0076-3	Data for the Indiana bat show that the proposed wind project is located within a migration route connecting a Priority to their summer roast.	Figure 4-6 in the HCP shows summer and winter band returns for Indiana bats. The linesconnecting the summer and winter band returns are merely lines connecting summer captures with winter captures of the same individual. These are not “migration paths” in that bats have not been documented flying these routes through the project area. Migratory bats are potentially present at any time during the migration season anywhere in the range of the Indiana bat. As part of the DHCP, the Applicant proposed to allocate $200,000 for research that could potentially be used for bat migration studies. This research could include telemetry studies that will help researchers to better understand aspects of fall migration that result in greater risk. See HCP Section 6.4 and Figure 4-6.
0076-4	Do to the fact bats do night flying to catch insects. With the wind turbines will cause alot of dead bats.	Section 5.1.2.7 addresses the biological significance of Indiana bat take in terms of local maternity colonies and the Midwest RU. In this section, Buckeye Wind describes the impact of the

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		Project on these two sub-population sets in terms of pre- and post-WNS. ITP issuance criteria states that, "the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild" (ESA 10(a)(2)(B)(iv). The purpose of Section 5.1.27 is to demonstrate through modeling that, regardless of the effects of WNS, the Project will not reduce maternity colony or the Midwest RU population to a non-viable population level appreciably sooner as a result of the Project than it would as a result of WNS in the absence of Project-related take. The modeling in the DHCP demonstrates that there would be no appreciable reduction on the survival or recovery of the species due to Project-related take.
0076-5	Since bats don't have a high reproductive rate and long generation times should carefully be consideration for any industrial wind projects since the detrimental effects of killing one sexually mature animal will outweigh any benefit from setting aside additional locations for habitat.	The life history of the Indiana bat was considered in the HCP (see Section 4.4 [Life History]). The life history was also included in the impact assessment (see Section 5 of the HCP [Impact Assessment]). The Leslie Model that was used to estimate the impacts of the taking on the Indiana bat population incorporates both reproductive rate and survival rate. See the discussion in HCP Section 5.1.2.7.1.
0076-6	Very importantly any undentified bats in this project should bed counted as indiana bats	Section 6.5.2.8.1 of the HCP (Data Collection) includes a detailed description of how carcasses will be collected, identified and reported. Any confirmed or suspected Indiana bat will be reported to the ODNR DOW and USFWS within 24 hours and positive ID will be made using a mutually acceptable approach. Any negative identification must be verified by the ODNR DOW and USFWS. Every bat carcass will, at the least, be either verified as not an Indiana bat, or will be confirmed as being an Indiana bat. That is, while some bat carcasses may be designated "unknown," those bats will be verified as not Indiana bats, and therefore, will not need to be counted as Indiana bats. Additionally, the HCP allows for DNA testing if deemed necessary on *Myotis* carcasses in order to verify the species.
0076-7	,and any female should be counted as two indiana bats fatalities during the months from April through mid - August.	The HCP provides that any female Indiana bat carcass found between April 1 and July 15 will be counted as two. This is based on accepted definition of the summer reproductive period and research (Kurta and Rice, 2002 and Humphrey, et al., 1977) that has shown about 90% of captured females are in reproductive condition during this time. There is no evidence that the treatment of females should extend to mid-August as juveniles generally become volant after mid-July.
0076-8	Our great concern is the mosquitoes problem has really slowed down.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce

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		impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0076-9	I feel the wind project will hurt the farm industry and homeowners.	Impacts of the project on Land Use and Socioeconomics are described in the EIS, Sections 5.7 and 5.9, respectively.
0076-10	Lastly the USFWS should put it at a top priority to consider what effect it will have on wildlife including birds,bats, and all other animals that will be affected.	Impacts of the project on wildlife (including birds and bats in general) and endangered and threatened wildlife (certain species of birds and bats) are assessed in Sections5.4 and 5.5 of the EIS, respectively.
0076-11	Wind farms are not efficient and more costly than other ways to produce electricty.	Thank you for your comment.
0076-12	A study should be conducted by a non govt. agency	The EIS was developed in coordination with government and non-government specialists in Indiana bats and environmental impact assessment in accordance with standard practice for an EIS as per the National Environmental Policy Act.
0077-1	I am against the proposed plan to build wind turbines in Champaign County, where I currently own a house.	Thank you for your comment.
0077-2	I am from Germany, where the installment of wind turbines near people's homes has caused health problems, protests, and discontent for those unfortunate enough to live near the turbines.	Sections 4.14 (Health and Safety) and 5.14 (Health and Safety) of the EIS discuss the potential impacts of the Proposed Action and alternatives on human health and safety. Section 5.14 of the EIS describes that the Applicant has taken a number of steps to avoid and minimize impacts to health and safety.
0078-1	We live in a semi-rural area because we enjoy country life.	Thank you for your comment.
0078-2	It appears that not protecting the bats that we have from the proposed wind turbines may be a costly mistake, leading to an increased need for pesticides (increased cost to farmers), which in turns creates the likelihood of more toxic run-off into our streams.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0078-3	The already endangered bats are useful and needed and should not be carelessly endangered even more so a relatively small number of investors can make more money, while those of us who live in the area get to pay the price.	Thank you for your comment.
0078-4	We request that the project be denied or, alternatively, that the Buckeye Wind project operate under Alternative A (Maximally Restricted Operations).	Thank you for your comment.
0079-1	The area intended for this 'wind farm' is highly residential and the impact on those within close proximity of these 500+ foot turbines is extreme.	The 100 turbines would be sited in locations consistent with OPSB-required setbacks from property lines and residential structures. Advanced engineering and micro-siting was used to ensure that turbines would not be constructed unless the setback requirement would be met or an appropriate

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		waiver would be executed (EDR 2009a).
0079-2	Difficulties directly related to the reckless and irresponsible short setbacks suggest a high potential for "Wind Turbine Syndrome" (http://windwisema.org/about/noise/wind-turbine-syndrome-and-vibroacoustic-disease/).	The research shows that people have complained of annoyance resulting from wind turbine sound, and there is reason to be prudent in turbine siting, but there is no evidence of any direct relationship between wind turbine sound and adverse physiological health impacts. Please refer to Section 5.14.2 of the EIS (Proposed Action) for more information.
0079-3	In addition, the danger to local wildlife is imminent. The detrimental effect on the "Indiana Bat" will lead to an increase in mosquito and pest population. The increase in mosquitoes and insects will therefore lead to a higher need for pesticides and insecticides in this highly agricultural region.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0079-4	Champaign County, Ohio, is not an appropriate location for a wind farm of this magnitude.	Thank you for your comment.
0080-1	We hope the U.S.Fish and Wildlife Service will continue to protect the Indiana bat and its habitat and not cater to the monied intertests of the Wind Power Industry.	Thank you for your comment.
0081-1	I can't understand why Greenies who claim to want to save the environment also want to cover beautiful landscapes (and seascapes) with these ghastly things.	Thank you for your comment.
0081-2	Save the planet? Who for? Not for people who will have their views ruined, and not for birds and bats (the latter being a protected species).	Impacts to Visual Resources are addressed in Section 5.8 of the EIS.
0081-3	Who'll help protect them if not your agency?? One should collect all of the dead bodies of all birds and bats from around all wind farm sites and send them to Greenpeace or just leave them inside the doors of their offices. As stewards of our surrounding environment, how can we allow such senseless killings? Not just senseless but potentially detrimental to our eco system through the loss of beneficial bats and birds alike?	Incidental Take Permits under Section 10(a)(1)(B) of the Endangered Species Act can be issued to authorize take of a federally-listed endangered or threatened animal that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity, as long as the permit application meets the criteria in 10(a)(2)(A), and as long as the conditions established in 10(a)(2)(B) are met.
0081-4	One of the worst facts about industrial wind turbines is not the money or subsidies but the disgraceful environmental legacy they will leave us within 30 years.	Thank you for your comment.
0081-5	Is it so wrong to ask that wind farms be studied and investigated a bit more before being erected with all the current stats & facts these behemoths' are doing and their true impact on the surrounding environment, wildlife, bats & birds? Is it not our great responsibility to be the keepers of our environment as best as we can and protect our resources through best practices???	The analysis conducted for and documented in the EIS and HCP includes a large volume of data and information collected through research and post-construction studies from other wind projects around the world. The analysis reflects the state of the science as it is known today. The proposed Project includes a robust monitoring program which will collect Project-specific data on the effects of the Project on Indiana bats (and birds and other bat species as well) should it move forward. This information will feed into the Project's adaptive management plan through which

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		corrective actions to reduce impacts on Indiana bats will be implemented if and when necessary. Further, the USFWS has no authority to recommend or require additional studies for this or any other proposed wind project. Rather, USFWS's responsibility is limited to approval or denial of the ITP application for the proposed Buckeye Wind Project submitted by Buckeye Wind.
0081-6	Everpower Preferred Alternative poses an unacceptable risk to the Indiana bat and other species in the target area.	Section 5.1.2.7 addresses the biological significance of Indiana bat take in terms of local maternity colonies and the Midwest RU. In this section, Buckeye Wind describes the impact of the Project on these two sub-population sets in terms of pre- and post-WNS. ITP issuance criteria states that, "the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild" (ESA 10(a)(2)(B)(iv). The purpose of Section 5.1.27 is to demonstrate through modeling that, regardless of the effects of WNS, the Project will not reduce maternity colony or the Midwest RU population to a non-viable population level appreciably sooner as a result of the Project than it would as a result of WNS in the absence of Project-related take. This fits with guidance from the USFWS Indiana Bat Section 7 and Section 10 Guidance for Wind Energy Projects (USFWS 2011e), which states that the USFWS would issue a no-jeopardy opinion if a project by itself would not "appreciably reduce" the likelihood of survival of the Indiana bat. The modeling in the DHCP demonstrates that there would be no appreciable reduction on the survival or recovery of the species due to Project-related take. Section 5.4 of the EIS addresses the potential impacts to non-listed bats and migratory birds within the Action Area from implementation of the HCP.
0081-7	The USFWS should select the No Action alternative and deny the requested ITP. As a second option, I feel that the USFWS should require at minimum that Buckeye Wind project operate under Alternative A (Maximally Restricted).	Thank you for your comment.
0082-1	There are many nights during the summer that my family spends outside enjoying our wooded acreage that has a wetland and waterway running through it. It is a habitat for many bats. We see numberous bats flying around while we are out at dusk. At first my children were unsure of these creatures but through lots of education have now come to understand their importance to our ecosystem. Throughout this summer I felt even more comfort knowing they were here with the increasing number of West Nile cases.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0082-2	We are surrounded by many crop fields and other forms of agriculture. There is no doubt in my mind how beneficial these creatures are to our farmers.	Thank you for your comment.
0082-3	Our well water is susceptible to whatever flows near by	While operation of the Proposed Project or

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	through our waterway. If bats no longer control pests, farmers will be forced to use more chemicals to protect their crops.	Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0082-4	I fear if the wind companies are not held to high standards of protecting these raptors then there will obviously be adverse affects.	Low densities of raptor species were observed in the Action Area, likely due to the lack of prominent landscape features such as ridges, and it is therefore anticipated that impacts to raptors from the Project would be minor. Any observed road-kill or other dead animals that may attract scavenging raptors such as vultures or eagles would be cleared from within turbine areas, and access roads. Potential impacts to raptors, along with avoidance and minimization measures to protect them are described in the EIS Section 5.4, and in Appendix C of the EIS.
0082-5	I have to believe that a "green energy" company would have the upmost concern for their impact on the environment around them. Their commitment to creating "clean energy" would seem less than sencere if they ask for the lowering of standards of protection for those who live around their turbines.	The EIS has considered potential impacts to the human environment. There has been no request for a reduction in the standards of protection against potential impacts.
0083-1	I am writing to request that the USFWS refuse the incidental take permit and select the no action alternative. Additionally, I am requesting that the Buckeye Wind project be mandated to work under Maximal Restricted Operations.	Thank you for your comment.
0084-1	I would like to voice concern over the proposed location of the Buckeye Wind facility due to significant risk of death or injury to the Indiana Bats, specifically with regards to their migration route and summer population in this area. From personal research, the current proposed turbine siting setbacks does not ensure proper protection of the Indiana bats and more appropriate setbacks should be enforced, including: turbine siting setbacks five miles from known capture-roost sites and ten miles from hibernacula,siting turbines to avoid shadow flicker on known Indiana bat maternity colony locations, and a ban on clearing of forests,	As a first point, the Project location was previously adjusted in 2008 in response to bat captures to be at least 5 miles from the closest Indiana bat capture to attempt to avoid take. The commenter argues that the DHCP should consider the placement of turbines outside of 5 miles from known maternity colonies. USFWS Section 7 and 10 Wind Guidance describes several methods for identifying the home range of Indiana bats for purposes for wind turbine siting. These methods include: If only capture point, buffer capture location by 5 miles, if only roost tree, buffer roost tree by 2.5 miles, and if telemetry data, connect all documented points into a minimum convex polygon. The Project had available site-specific telemetry data from Indiana bats caught during pre-construction surveys that was used to create a minimum convex polygon, and the DHCP was enhanced through the consideration of that data. No turbines will be sited within the minimum convex polygon home range for the 3 radio-tracked Indiana bats in the northern portion of the Action Area. None of the turbines will be sited closer than 1.8 miles from known maternity roost trees that were documented during pre-construction

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		surveys in 2009. There is no evidence to suggest that shadow flicker from operating turbines would impact bats in roost trees. In addition, turbines have been sited greater than 2.9 km (1.8 mi) from documented maternity roost trees. For these reasons, impacts from shadow flicker are not expected. As described in Section 6.1.1 – Project Planning and Siting, attempts were made to avoid impact by locating the Project outside a five mile buffer of the discovered maternity colonies discovered in 2008. Further adjustments to accommodate Indiana bat captures in 2009 were not practical because it would require that the proposed turbine locations be moved outside of the Action Area. Project planning in the Action Area continued after discussions with the USFWS, and other avoidance and minimization measures were discussed and developed as part of the draft conservation program. In lieu of more site specific data and because maternity colonies may move across the Action Area over time, the Applicant decided to focus on operational feathering regimes, which have been documented to reduce take of bats.The Habitat Suitability Model and cut-in speeds differentiated based on habitat Category offers a more informed site-specific minimization approach than generically applying a 5 mile "buffer". The Project is sited greater than 10 miles from Indiana bat hibernacula. Buckeye Wind proposes to impact no more than 6.8 ha (16.8 ac) of trees, and the effects of this habitat loss on Indiana bats has been analyzed in Section 5.2.1.1 of the HCP.
0084-2	The U.S. Fish and Wildlife Service should select the No Action alternative and deny the requested ITP. In the alternative, the U.S. Fish and Wildlife Service should require that the Buckeye Wind project operate under Alternative A (Maximally Restricted Operations).	Thank you for your comment.
0085-1	I support the plan as laidout by Bukeye Wind to protect and enhance wildlife while protecting our environment.	Thank you for your comment.
0085-2	The Buckeye Wind Project will benefit our community and our nation.	Thank you for your comment.
0086-1	Farmers continue to be early adopters and understand the need to constantly look at balanced approaches to science and technology. Similarly, Buckeye Wind with the help of wildlife consultants and constant comunication with ahost of agencies and stake holders have developed a science based approach to evaluate, mitigate and enhance a host of species including the Indiana Brown Bat.	Thank you for your comment.
0086-2	The EIS and HCP are a testement to what colaboration can and do to enable us to advance the harvest of clean energy	Thank you for your comment.

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	as well as ensuring little impact to wildlife and the community as a whole. As a farmer and person in the energy business,I comend the efforts of the group on a very robust document	
0087-1	The idea that Everpower feels that more stringent restrictions are not financially feasible is totally unacceptable.	Buckeye Wind is not required to demonstrate that implementation of a higher cut-in speed is "not financially feasible," rather under 50 CFR § 17.22(b)(2) they are required to document that they have, to the maximum extent practicable, minimized and mitigated the impacts of the taking, and that the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild.
0087-2	The estimates of cost to Champaign County farmers as $12 million annually in increased pesticide costs from the loss of bats due to wind turbines and White Nose Syndrome is, in my opinion, probably a low estimate	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0087-3	not to mention the cost to consumers not only to their pocket book but to their overall health as a result of more use of pesticides due to loss of bat population.	Operation of the proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to birds and bats. The resulting magnitude of impacts of the Project on local and regional bat populations would be so small as to not appreciably reduce the pest control benefits of bats and warrant increased pesticide use.
0087-4	Humans are the main cause of bat decline and extinction. These losses are from activities such as deforestation, elimination of foraging areas, roost and cave destruction, and now wind turbines.	Thank you for your comment.
0087-5	The double edge sword here is wind turbines will kill bats in flight while the increase in pesticide use will also poison and kill the bats who consume them.	Operation of the proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to birds and bats. The resulting magnitude of impacts of the Project on local and regional bat populations would be so small as to not appreciably reduce the pest control benefits of bats and warrant increased pesticide use.
0087-6	Bats are exceptionally vulnerable to extinction, in part because they are the slowest reproducing mammals on earth for their size, most producing only one young annually. More than 50% of bats do not survive infancy. A female usually has only one offspring a year, so population recovery is slow.	It is correct that bats have a low reproductive rate compared with other animals. This is discussed in both the EIS and the HCP and the Indiana bat reproductive rate and survival rate are accounted for in the mortality modeling conducted for the HCP.
0087-7	Declining populations can only be stopped through tough measures. More than 50% of American bat species are in severe decline.	Thank you for your comment.
0087-8	Scientists are baffled by a disease called White-Nosed Syndrome that is affecting cave bats in the US. So why do we humans continue to contribute to their decline; perhaps for the financial benefit of some?	The HCP has considered potential impacts to Indiana bats and has included the impacts of WNS in that evaluation.

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0087-9	A single bat can eat up to 1,200 mosquitoes in a single hour. Bug zappers and insecticides put together can't match the eating power of one bat. In the last few decades bat populations have been declining at alarming rates worldwide. Bats remain the most endangered land mammal in the United States. Bats are the primary predators of night-flying insects, playing a vital role in maintaining their balance in nature. One bat eats 1/3 of its body weight and is able to catch 600 mosquitoes in one hour.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0087-10	Their instinct to live in colonies ensures that large numbers of bats will live or relocate to areas where there are lots of insects, keeping insect populations down.	Thank you for your comment.
0087-11	And different bat species hunt at different heights, preying on different kinds of insects. The big-sized bats eat various moths and worms that are harmful to agriculture and forestry. The small-sized bats eat mosquitoes and other double-winged insects - - carriers of diseases such as malaria and leischnamia. This is one reason to protect all species of bats.	Operation of the proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to birds and bats. The resulting magnitude of impacts of the Project on local and regional bat populations would be so small as to not appreciably reduce the pest control benefits of bats and warrant increased pesticide use, or increase the incidence of mosquito-bourne illness.
0087-12	Common sense dictates that disrupting the God given balance of nature by man is a ridiculous endeavor. Why are we disrupting this balance with wind turbines that are not financially productive, don't always work and are costly when it comes to maintenance (which is another issue).	Thank you for your comment.
0087-13	Bats have been around for hundreds of years providing this balance. Wind turbines certainly will destroy this balance along with perhaps the deterioration of human life. Why do we continue to fight nature?	Thank you for your comment.
0088-1	For the below reasons, I am requesting that the USFWS deny the requested incidental take permit and select the No Action alternative. In addition, the Buckeye Wind project should be required to operate under Alternative A (Maximally Restricted Operations).	Thank you for your comment.
0088-2	Data for the Indiana bat show that the proposed wind project is located within a significant migration route connecting a Priority 1 hibernaculum to summer roost locations.	Figure 4-6 in the HCP shows summer and winter band returns for Indiana bats. The lines connecting the summer and winter band returns are merely lines connecting summer captures with winter captures of the same individual. These are not "migration paths" in that bats have not been documented flying these routes through the project area. Migratory bats are potentially present at any time during the migration season anywhere in the range of the Indiana bat. As part of the HCP, the Applicant proposed to allocate $200,000 for research that could potentially be used for bat migration studies. This research could include telemetry studies that will help researchers to better understand aspects of fall migration that result in greater risk. See HCP Section 6.4 and Figure 4-6.
0088-3	Impacts are likely to be substantial given that both wind turbines and these flying mammals are most operational/active at night.	The use of feathering and cut-in speeds as proposed in the HCP are specifically implemented during the times of night and periods of the year when Indiana bats and other bats are most at risk, to reduce the

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		potential for collision and/or barotrauma.
0088-4	The unique life history of bats, with low reproductive rates and long generation times, necessitates careful consideration for siting of industrial wind projects since the detrimental effects of killing one sexually mature animal will outweigh any benefit from setting aside additional habitat.	It is correct that bats have a low reproductive rate compared with other animals. This is discussed in both the EIS and the HCP and the Indiana bat reproductive rate and survival rate are accounted for in the mortality modeling conducted for the HCP.
0088-5	Importantly, any unidentified bats in this project area should be counted as Indiana bats, and any female Indiana bat carcass should be counted as two Indiana bat fatalities during the months from April through mid-August.	Section 6.5.2.8.1 of the HCP (Data Collection) includes a detailed description of how carcasses will be collected, identified and reported. Any confirmed or suspected Indiana bat will be reported to the ODNR DOW and USFWS within 24 hours and positive ID will be made using a mutually acceptable approach. Any negative identification must be verified by the ODNR DOW and USFWS. Every bat carcass will, at the least, be either verified as not an Indiana bat, or will be confirmed as being an Indiana bat. That is, while some bat carcasses may be designated "unknown," those bats will be verified as not Indiana bats, and therefore, will not need to be counted as Indiana bats. Additionally, the HCP allows for DNA testing if deemed necessary on *Myotis* carcasses in order to verify the species. The HCP provides that any female Indiana bat carcass found between April 1 and July 15 will be counted as two. This is based on accepted definition of the summer reproductive period and research (Kurta and Rice, 2002 and Humphrey, et al., 1977) that has shown about 90% of captured females are in reproductive condition during this time. There is no evidence that the treatment of females should extend to mid-August as juveniles generally become volant after mid-July.
0088-6	Population recovery would take several decades and may not be possible given the concurrent problem of White Nose Syndrome (WNS) in the United States.	Thank you for your comment.
0088-7	As expressed in a recent article co-authored by a US Geological Survey biologist1, the combined threats of WNS and wind turbines are causing a sudden population decline of insectivorous bats on a scale rivaled by few recorded events affecting mammals.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0088-8	Indeed, there is no justification for killing an at-risk species in the face of an emerging fatal infectious disease.	Incidental Take Permits under Section 10(a)(1)(B) of the Endangered Species Act can be issued to authorize take of a federally-listed endangered or threatened animal that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity, as long as the permit application meets the criteria in 10(a)(2)(A), and as long as the conditions

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		established in 10(a)(2)(B) are met.
0088-9	Estimates from the resulting disruption of ecosystems put the value bats to the agricultural industry at roughly $22.9 billion/year.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0088-10	Preserving the integrity of ecosystems is in the best interest of both national and international economies.	Thank you for your comment.
0088-11	The actual number of bats killed by wind turbines each year is difficult to assess given the absence of continental-scale monitoring programs. Useful monitoring programs require a national approach which could be hindered by setting a precedent with the approval of the Buckeye Wind ITP and HCP. Considering the Buckeye Wind HCP, the Midwest Energy HCP and others concurrently is a fragmented approach that makes it difficult to achieve constructive public advisement. A more inclusive and far-reaching strategy would have a better chance of achieving monitoring programs that would produce meaningful results for the affected species.	While a national post-construction monitoring approach would certainly provide more robust estimates of bat mortality at wind projects, this is unlikely to occur and is beyond the scope of this analysis. There is no Federal oversight of wind power projects, and state oversight varies considerably. This fragmented oversight of the industry on a national basis makes a national post-construction monitoring program unlikely, unless the wind industry as a whole were to voluntarily undertake such an effort. In order to obtain an ITP, an applicant is required to monitor the impacts of the taking (50 CFR §17.22(b)(1)(iii)(B)) and the HCP contains a detailed description of the proposed monitoring plan in Section 6.5 (Monitoring and Adaptive Management).
0088-12	I respectfully ask that science remain a guiding authority in all USFWS activities, especially with regards to establishing policies that affect species survival.	Incidental Take Permits under Section 10(a)(1)(B) of the Endangered Species Act can be issued to authorize take of a federally-listed endangered or threatened animal that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity, as long as the permit application meets the criteria in 10(a)(2)(A), and as long as the conditions established in 10(a)(2)(B) are met.
0088-13	Since the consultant hired by Buckeye Wind did not find any of the Indiana bats that were discovered in the Action Area, all monitoring should be performed by a third party under contract with the USFWS, funded by Buckeye Wind but with direct reporting to the USFWS.	Monitoring will be conducted by a third party consultant qualified to conduct post-construction mortality monitoring (see Section 6.5.2 of the HCP [Methods for Minimization Monitoring]). The Applicant will contract with and pay the consultant to do the work, but the USFWS and ODNR will approve the selection of the consultant. The USFWS will review the monitoring methods and results and reports to ensure that the work is being done as described in the HCP. Further, the USFWS will have a Incidental Take Permit condition that allows access to the Project site for monitoring purposes.
0089-1	'The Draft EIS inaccurately represents at page 3-3 that 48 additional turbines are planned for the second phase, for a total of 100 turbines in the two phases of the project. The Ohio Power Siting Board Approved 52 turbines in the project's first phase, and is	The ITP, if issued, will be for 100 turbines as requested in Buckeye Wind's ITP application. The ITP will not cover more than 100 turbines. The Draft and Final versions of the EIS present the maximum potential impact for 100 turbines.

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	considering 56 more turbines in the second phase. Consequently, the total number of turbines for which Buckeye Wind seeks authorization is 108, not 100 as stated in the Draft EIS. Although Buckeye Wind represents that it will not install more than 100 turbines in the project, it does not specify which turbines will be omitted. The lack of specificity in the proposed turbine locations creates ambiguity in the Draft EIS's discussion of facility impacts.	
0089-2	II. The Proposed Action Should Be Evaluated By Means Of A Programmatic EIS. On August 31, 2012, the USFWS published in the Federal Register a Notice of Intent to prepare a Midwest Wind Multi-Species Habitat Conservation Plan ("Multi-Species HCP")(attached as Exhibit C). The Multi-Species HCP will cover impacts to federally- listed endangered and threatened species, including the Indiana bat, resulting from the siting, construction, operation, maintenance, and decommissioning of new and existing wind energy facilities in Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin. The Service's intent is that the Multi-Species HCP will meet all ITP issuance criteria and will be evaluated under NEPA and Section 7 of the ESA. The Service further envisions that once the Multi-Species HCP is finally approved, no additional NEPA or Section 7 analysis will be necessary when issuing ITPs to individual wind energy companies in the eight states covered by the Multi-Species HCP. The Service is seeking comments until October 1, 2012 concerning the planning process, permitting approach, biological aspects of the interaction of wind facilities and species, and scientific data that may help inform the Multi-Species HCP or impact monitoring. In light of the fact that the Service has recently issued Draft EIS documents for the Buckeye Wind and Beech Ridge Energy projects, see Exhibit D, it follows that the Multi-Species HCP is also a major federal action requiring an EIS under NEPA. In Kleppe v. Sierra Club, the U.S. Supreme Court held that where several proposals for federal action "that will have cumulative or synergistic environmental impact upon a region are pending concurrently before an agency, their environmental consequences must be considered together." Kleppe v. Sierra Club, 427 U.S. 390, 409 (1976). Here, the proposed Multi-Species HCP and the proposed Buckeye Wind HCP and ITP would have adverse cumulative or synergistic effects on Indiana bats and other wildlife in the eight-state Midwest region. Thus, the Multi-Species HCP and the Buckeye Wind HCP/ITP are clearly-defined regional proposals that, per Kleppe, must be evaluated pursuant to a unified programmatic EIS. Furthermore, the CEQ regulations specifically contemplate the consolidation of NEPA review of multiple proposals where those programs can be grouped geographically (including actions occurring in the same general location, such as watershed or region), or generically (including actions which have relevant similarities such as common timing, impacts, alternatives, methods of implementation, or subject matter). 40 C.F.R. §1502.4(c). The Buckeye Wind	The USFWS has received an application for an Endangered Species Act Section 10(a)(1)(B) permit and is evaluating it as required under 50 CFR §17.22(b)(2) and §13.21. While the Midwest Wind Energy Multi-species HCP and EIS are underway, they are in the early stages of development. Additionally, the Midwest Wind Energy Multi-species HCP and EIS will have to address all existing wind projects, including the Buckeye Wind Project, as part of the baseline conditions. The Buckeye Wind HCP is for a single project in a specific location, it is not a regional proposal and it is not proposed for the same geographic area as the Midwest Wind Energy Multi-species HCP.

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	HCP and the Multi-Species HCP both meet those criteria. Furthermore, the Department of Interior's Department Manual states: If proposed actions are planned for the same geographic area or are otherwise closely related, environmental analysis should be integrated to ensure adequate consideration of resource use interactions, to reduce resource conflicts, to establish baseline data, to monitor and evaluate changes in such data, to adapt actions or groups of actions accordingly, and to comply with NEPA and the CEQ Regulations. 516 DM 1.5(A)(3). An ITP may not be issued for the Applicant's project pending completion of the programmatic EIS because the environmental analysis for the former does not adequately evaluate cumulative and synergistic environmental impacts of reasonably foreseeable wind development across the region. 40 C.F.R. § 1508.27(b)(7)(action has "significant" environmental impacts where related to other actions with cumulatively significant impacts); Id. § 1508.7 ("cumulative impact" is the impact on the environment which results from the proposed action and other reasonably foreseeable future Actions regardless of what agency or person undertakes them); Texas Comm. on Nat'l Res. v. V an W inkle, 197 F. Supp.2d 586, 617 (N.D. Texas 2002). The Draft EIS only considers cumulative wind energy impacts within Michigan, Ohio, Indiana, Kentucky, Tennessee, and Alabama, while the Multi-Species HCP will consider impacts within Illinois, Iowa, and Missouri as well.	
0089-3	Furthermore, the discussion of cumulative impacts in the Buckeye Wind Draft EIS significantly underestimates anticipated future wind development within the geographic area that it does consider. For example, although the Draft EIS projects a total 4,104 MW of wind generating capacity in Ohio in the next three years, data from the regional grid operator PJM indicates that there is currently 5,255 MW of wind generating capacity either installed or planned in Ohio. Exhibit F. Thus, federal law requires consideration of both the Buckeye Wind HCP/ITP and the Multi-Species HCP in a single programmatic EIS in order adequately to consider the cumulative environmental impacts on the Midwest region. As a practical matter, it is not possible adequately to evaluate those impacts in the Buckeye Wind NEPA review until scoping is completed for the Multi-Species HCP and the range of feasible alternatives for that action is identified. A programmatic EIS will provide a more fully-developed evaluation of all relevant environmental impacts and thus will provide a more thorough and integrated foundation for decision making regarding the Buckeye Wind HCP.	The EIS estimates the number of proposed projects that will be built in the next 3 years based on the history of the PJM interconnect queue (NREL 2009) and the assumption that actual build out is likely to be far less based on industry experience and market factors. As such, the EIS has a lower estimate than the PJM data suggests. The USFWS has received an application for an Endangered Species Act Section 10(a)(1)(B) permit and is evaluating it as required under 50 CFR §17.22(b)(2) and §13.21. While the Midwest Wind Energy Multi-species HCP and EIS are underway, they are in the early stages of development. Additionally, the Midwest Wind Energy Multi-species HCP and EIS will have to address all existing wind projects, including the Buckeye Wind Project, as part of the baseline conditions. The Buckeye Wind HCP is for a single project in a specific location, it is not a regional proposal and it is not proposed for the same geographic area as the Midwest Wind Energy Multi-species HCP.
0089-4	2 USFWS, Interim Guidelines to A void and Minimize W ildlife Impacts from W ind Turbines at p. 3 (May 13, 2003) ("Interim Guidelines"). The Service issued final Land-Based Wind Energy Guidelines on March 23, 2012. Exhibit 10.	During development of the Buckeye Wind HCP and EIS, Buckeye Wind utilized the USFWS's Interim Guidelines to Avoid and Minimize Wildlife Impacts from Wind Turbines (USFWS 2003) and

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	However, the Draft EIS states that the Interim Guidelines, not the 2012 Land-Based Wind Energy Guidelines, served as the "operative guidance document" during planning of the Buckeye Wind project. Draft EIS at p. 5-24, fn. 2. The Service should require the Applicant to comply with the Buckeye Wind 2012 Land-Based Wind Energy Guidelines. However, the recommendations of the Interim Guidelines are nonetheless relevant in evaluating the appropriateness of the Applicant's siting choice.	the Federal Advisory Committee Recommended Guidelines (FAC 2010) because the 2012 Guidelines (USFWS 2012) were not yet available. Buckeye Wind developed an Avian and Bat Protection Plan to address the 2003 and 2010 Guidelines. The 2012 guidelines are voluntary. Therefore, the USFWS cannot require the applicant to comply with them. The 2012 guidelines indicate on page 4 that, "for projects initiated prior to publication, the developer should consider where they are in the planning process relative to the appropriate tier and inform the USFWS of what actions they will take to apply the Guidelines" (USFWS 2012). Section 1.2.4.1 of the ABPP describes how Buckeye Wind considered the 2003 and 2010 Guidelines in developing measures to protect migratory birds and non-listed bats.
0089-5	A. The proposed location of the Buckeye Wind facility is inappropriate because it poses a significant and unacceptable risk of death or injury to Indiana bats. Although the Service's 2003 interim wind turbine siting guidelines recommended that wind developers "avoid placing turbines near known bat hibernation, breeding, and maternity/nursing colonies, in migration corridors, or in flight paths between colonies and feeding areas," 2 the Applicant chose prime Indiana bat habitat for its proposed project site. The Action Area is located within one of the heaviest migration routes from a Priority 1 Indiana bat hibernaculum to summer roost locations. Draft EIS at pp, 4-47, Figure 4.5-3. Contrary to the Draft EIS, which states that Indiana bats may merely "occasionally travel or roost throughout the Action Area" during spring and fall migration, *id*. at p. 4-48, the Draft HCP estimates that up to 5,800 Indiana bats migrate through the Action Area each year. Stantec Consulting Services, Draft Buckeye Wind Habitat Conservation Plan at p. 6 (June 2012) ("Draft HCP"). The Draft HCP further estimates the summer population of Indiana bats in the Action Area to be up to 2,271 bats. At least two maternity colonies are known to exist in the Action Area. Draft EIS at p. 5-55. One of the maternity colonies is located within 1 75 miles of at least one turbine proposed for Buckeye Wind Phase I. Testimony of Cara Meinke at p. 653 (Exhibit 12). We do not know the separation distance for the other known maternity colony. One Indiana bat non-maternity roost is 1.2 miles from a turbine. Meinke Testimony, p. 653. Yet Stantec, Buckeye Wind's consultant for its Indiana bat survey, found none of the Indiana bat maternity colonies or roosts, or even any of the bats themselves, in Stantec's survey. Another consultant for another wind developer found these bats while evaluating another potential project. Buckeye Wind has not even bothered to do an Indiana bat survey for the second phase of its project. Moreover, because maternity colonies are difficult to locate, the Service estimates that only a fraction of Indiana bat maternity colonies have been documented. Draft HCP at 61.	The commenter claims that risk of death or injury is too high because of the Project's location relative to migratory paths and the number of Indiana bats that could potentially be within the Action Area during migration or foraging. The commenter also cites uncertainty over the number of maternity colonies located within the Action Area. It should first be noted that the lines on figure 4.5-3 in the DHCP are not "migratory paths," but are simply lines that connect known summer sites to known winter sites. In addition, project siting is only one consideration among several when avoiding and minimizing impacts. Several actions were taken by the Applicant during the siting process to avoid impacts to Indiana bats (See Section 6.1.1). As a first point, the Project location was previously adjusted in 2008 in response to bat captures to be at least 5 miles from the closest Indiana bat capture to attempt to avoid take. USFWS Section 7 and 10 Wind Guidance describes several methods for identifying the home range of Indiana bats for purposes of wind turbine siting. These methods include: If only capture point, buffer capture location by 5 miles, if only roost tree, buffer roost tree by 2.5 miles, and if telemetry data, connect all documented points into a minimum convex polygon. The Project had available site-specific telemetry data from Indiana bats caught during pre-construction surveys that was used to create a minimum convex polygon, and the HCP was enhanced through the consideration of that data. No turbines will be sited within the minimum convex polygon home range for the 3 radio-tracked Indiana bats in the northern portion of the Action Area. None of the turbines will be sited closer than 1.8 miles from known maternity roost trees that were documented during pre-construction surveys in 2009. As described in the HCP Section 6.1.1 – Project

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	The USFWS has found that agricultural land with fragmented forests and low-to- moderate forest cover is the type of habitat in which most Indiana bat maternity colonies have been discovered. See USFWS, Indiana Bat Draft Recovery Plan (April 2007) ("Recovery Plan") at pp. 67-68. The Action Area is dominated by agricultural land uses with fragmented forests and low-to-moderate forest cover. In fact, Stantec's biologist in charge of the bat survey testified to the Ohio Power Siting Board that the project area for phase one alone contains 16.3 square kilometers of Indiana bat habitat. Meinke Testimony, p. 642. Therefore, it is likely that more maternity colonies are located within the Action Area.	Planning and Siting, attempts were made to avoid impact by locating the Project outside a five mile buffer of the discovered maternity colonies in 2008. Further adjustments to avoid Indiana bats detected in 2009 were not practical because it would require that the proposed turbine locations be moved outside of the Action Area. Project planning in the Action Area continued after discussions with the USFWS, and other avoidance and minimization measures were discussed and developed as part of the draft conservation program. In lieu of more site specific data and because maternity colonies may move across the Action Area over time, the Applicant decided to focus on operational feathering regimes, which have been documented in multiple studies to reduce take of bats. While individual bats from at least two maternity colonies were captured within the Action Area, the HCP assumes that Indiana bats occur throughout the Action Area where suitable habitat exists.
0089-6	B. More reliable and longer-term data is needed in order to develop valid estimates of the presence and risk of the Indiana bat in the Action Area and the risk of harm to the Indiana bat from the Buckeye Wind project. The analysis of bat populations in the Draft EIS is based largely on two studies by Stantec from 2007 and 2008. However, the results of those two surveys do not provide reliable estimates of the degree of Indiana bat presence in the Action Area. In the acoustic survey conducted by Stantec in the fall of 2007, nearly half (48%) of the bat calls detected were categorized as "unknown." Draft EIS Table 4.4-4. In the 2008 acoustic survey by Stantec, 32% of the detected calls were "unknown." Three percent of the calls detected in the 2008 acoustic survey were identified as *Myotis* species. *Id*. However, the 2008 acoustic survey report concluded that the majority of the numerous unidentified HFUN calls (high frequency calls — see pp. 8-9 of the report) were from Myotis species, because the calls were detected under the tree canopy level where *Myotis* species are more frequently found. Stantec, *Spring, Summer, & Fall 2008 Bird and Bat Survey Report for the Buckeye Wind Power Project* at p. 23 (February 2009) ("2008 Bat Report"). Thus, the 2008 Bat Report concludes, "the *Myotis* species are likely more common in the Project area than the 3% detection rate of the MYSP guild suggests." In mist netting performed in 2008, Stantec identified two reproductive (lactating) adult female Indiana bats and one non-reproductive adult male Indiana bat. These bats were found in Logan County, to the north of the Action Area. The Indiana bat captures from the 2008 Stantec mist netting survey constituted 1% of all bats captured in that study. However, during a 2009 mist netting survey, a consultant for a competing wind developer captured five Indiana bats study in the Action Area itself, including four lactating females. Draft EIS at p. 4-32; Draft HCP at p. 52. These	The DHCP utilizes best available science, expert input from 3rd party consultants, the USFWS, the ODNR and other independent parties to provide a comprehensive and thorough assessment of the potential impacts. While uncertainty is unavoidable, it is not clear that additional surveys would provide any further information that would allow more accurate evaluation of the Project's risk to Indiana bats. The Applicant's 3rd party consultant followed standard mist-net survey protocol when conducting all mist-netting surveys. While Indiana bats were not detected during 2007 surveys, it is important to note that Indiana bats were detected in 2008. Based on this detection, the Applicant has assumed that Indiana bats are present throughout the Action Area for the purposes of the DHCP. This is a reasonable assumption when analyzing the potential for take of Indiana bats during the life of the Project. With respect to acoustical monitoring, the survey methodology was conducted in accordance with a work plan developed by Stantec in coordination with USFWS and ODNR DOW. The surveys were conducted over 2 calendar years, but were designed to provide coverage for one complete survey year. In aggregate, the surveys cover March 29 to October 29 and should not be viewed as 2 separate surveys, each inadequate in capturing the full season (ODNR protocol calls for 1 year of pre-construction acoustic surveys). Further, the purpose of acoustic monitoring per the protocol is to provide data on all bat use of a wind project area, not to detect the presence/absence of Indiana bats.

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	Indiana bat captures constituted a full 10% of the total captures from that study. Based on data from only 12 of 27 Indiana bats captured in a three-county area (including the Action Area) during 2008 and 2009, Stantec calculated that the estimated mean summer (non-migratory) Indiana bat population in the Action Area was 415.7 bats ± 461.2 bats, or a range from 10.1 to 2,271.4 Indiana bats. Draft HCP at 68; Stantec, Indiana Bat Collision Risk Model at p. 11 (Draft, December 2010). Based apparently on that estimated range, the Draft EIS estimates the summer Indiana bat population to be 435.5 bats. Draft EIS at p. 5-55. That figure is highly unreliable, however, given that the deviation is greater than the mean itself. The unreliability of the population estimate is then compounded by Stantec's utilization of the same limited data set to predict impacts of the Buckeye Wind facility on Indiana bats using inherently unreliable habitat suitability and collision risk models. See p. 9, below. The Service's 2012 Land-Based Wind Energy Guidelines point out the risks posed by using inadequate data to evaluate and model wildlife presence, use, and risk: Where pre-construction assessments are warranted to help assess risk to wildlife, the studies should be of sufficient duration and intensity to ensure adequate data are collected to accurately characterize wildlife presence and use in the area. In ecological systems, resource quality and quantity can fluctuate rapidly... Pre-construction monitoring and assessment of proposed wind energy sites are "snapshots in time," showing occurrence or no occurrence of a species or habitat at the specific time surveyed. Often, due to prohibitive costs, assessments and surveys are conducted for very low percentages (e.g., less than 5 percent) of the available sample time in a given year; however, these data are used to support risk analyses over the projected life of a project (e.g., 30 years of operations.) To establish a trend in site use and conditions that incorporates annual and seasonal variation in meteorological conditions, biological factors, and other variables, pre-construction studies may need to occur over multiple years. Land-Based Wind Energy Guidelines at p. 25 (Exhibit 10). Although the Draft EIS considers three bat surveys performed in and around the Action Area, none covered the entire annual period during which Indiana bats are believed to be present (April 1-October 31). The 2008 Stantec acoustic survey collected data from March 29-September 3. However, that study is flawed for several reasons: It is likely that the AnaBat detector at the location known as the "South Tree," where a large portion of Myotis and HFUN calls were detected, malfunctioned in early June of 2008. 2008 Bat Report at pp. 18-19. The data for the South Tree site shows a dramatic dropoff of bat detections after May, while the data for the North Tree site (outside the Action Area) shows an	

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	exponential increase in detections over the same period. *Id*. Figure 2-9b. Stantec states that the drop in detections at the South Tree "is not consistent with what would be expected, given typical bat activity associated with summer breeding and foraging activities." *Id*. at p. 18. According to Stantec, "The sharp drop in detection rates after June 1 is difficult to explain," leading to the conclusion that a malfunction may have been "responsible for this unexpected trend, rather than a real biological phenomenon." *Id*. Because the South Tree site detected the greatest number of bats before June, the apparent detector malfunction significantly skewed the results of the study. The 2008 Bat Study gathered acoustic data from only two locations approximately ten miles apart. However, the north location was ultimately excluded from the proposed project area. Thus, the 2008 at Study ultimately collected data from only one location within the 80,051 acre (324 square kilometer) Action Area. The Land-Based Wind Energy Guidelines recommends placing acoustic detectors every two kilometers across the site where turbines are expected to be sited. Land-Based Wind Energy Guidelines at p. 31. The Applicant's survey falls well short of the Service's requirements. As described in Section III. A. above, the Applicant's mist netting survey missed all of the Indiana bats in the project area. The Applicant's survey failed to find even the Indiana bats located close to Buckeye Wind's turbine sites by another developer's consultant. Obviously, Buckeye Wind's mist net survey was deficient. In conclusion, given the undisputed existence of the Indiana bat in the Action Area as documented by on-site surveys and academic literature, more reliable and longer-term data is needed in order to develop valid estimates of the presence and risk of the Indiana bat in the Action Area and the risk of harm to the Indiana bat from the Buckeye Wind project. For reasons discussed below, the Commenters submit that the Service should not issue an ITP for this project. Before entertaining the issuance of an ITP, however, the Service should first require the Applicant to perform a meaningful Indiana bat study that provides enough data to accurately evaluate the project's risks to the Indiana bat.	
0089-7	The Applicant's Preferred Alternative and Minimally Restrictive Operations Alternative rely on a complex and interdependent chain of statistical analyses. First, as discussed above, the Applicant attempts to extrapolate an Action Area population figure based on data from twelve Indiana bats, resulting in a meaningless seasonal population range of between 10.1 to 2,271.4 Indiana bats. Using that data, the Applicant then uses habitat suitability and collision risk models in an attempt to predict the degree of risk to Indiana bats in various portions of the Action Area and at various times of year. Finally, based on those models, the Applicant proposes an elaborate scheme for operating its various turbines at differing cut-in speeds depending on their locations and the season of operation.	To be clear, no “Preferred Alternative” was selected in the DEIS or DHCP. Instead, the applicant identified their “Proposed Alternative.” The commenter uses a DHCP developed by another project, with different risk factors and different available data, to support an argument that the assumptions in the Preferred Alternative and Minimally Restrictive Alternative are invalid and unsupported. A primary difference between the Beech Ridge project and the Buckeye Wind Project is that Beech Ridge only has bat acoustical data available for site-specific impact assessments. The captured Indiana bats at and near the Buckeye Wind Project were equipped with radio tracking devises, providing a wealth of data that included

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	In contrast, on August 1, 2012, the USFWS issued a Draft EIS for the proposed Beech Ridge Energy HCP and ITP. Exhibit D. Beech Ridge Energy proposes to construct and operate up to 100 wind turbines at a single site in West Virginia. Although there have been no documented captures of Indiana bats within the footprint of the Beech Ridge project, acoustic data indicates that the Indiana bat is found within the project area. Id. at pp. 116, 120. However, the Beech Ridge Draft EIS does not attempt to calculate the Indiana bat population within the project area, nor does it include the type of elaborate risk modeling attempted by the Applicant. In fact, the USFWS pointedly states in the Beech Ridge Draft EIS: There are currently no predictive models available to quantify expected bat collision mortality as a result of wind energy facility operation. Risk assessments must be based on pre-construction indices and indicators of risk (e.g., acoustic surveys), along with empirical mortality data from operating facilities. However, predicting bat mortality rates at wind projects using only pre-construction bat detection rates is considered unreliable. Beech Ridge Draft EIS at p. 228 (emphasis added). In the absence of predictive modeling of the sort espoused by the Applicant, the Beech Ridge Draft EIS does not include any alternatives that consider variable cut-in speeds dependent on season and turbine location. In light of the Service's unequivocal assessment that there are no reliable predictive models for collision mortality, the foundation for the Applicant's Preferred Alternative and Minimally Restricted Operations Alternative is presumptively invalid and these alternatives should be rejected. As discussed above, both the Habitat Suitability Model and the Collision Risk Model are based on a highly unreliable mean population estimate. The assumptions built into both models serve only to compound the high level of uncertainty already inherent in the population estimate. Furthermore: • Indiana bats are assumed to exist throughout the Action Area and are known to migrate through the Action Area. For example, an Indiana bat was captured in the middle of the Buckeye Wind Action Area and subsequently tracked 6.3 miles to a roost tree, Draft HCP at p. 66, which is contrary to the Habitat Suitability Model's assumption that Indiana bats stay relatively close to forest edges. Habitat Suitability Model at pp. 16-17. Other studies summarized in the USFWS Indiana Bat Recovery Plan tracked Indiana bats for travel distances up to 5.2 miles, including flights across open fields and highways, to forage for food. See pp. 50, 66, and 69. Furthermore, the three documented Indiana bat fatalities at the Fowler Ridge and North Allegheny were likely migrant bats. 3 Draft EIS at p. 5-51. Therefore, there is no basis for distinction between "high risk" and "low risk" habitat areas as proposed in the Habitat Suitability Model. • Although the Collision Risk Model is based on assumptions about the flight height of Indiana bats,	site-specific behavioral patterns. These data provide a unique opportunity for the Applicant and the USFWS to develop risk models that would not be possible otherwise. The Service considered several methods for estimating take of Indiana bats at the Buckeye Wind project. The method used for the Beech Ridge project only addresses potential fall migration mortality, and does not consider the potential for spring or summer take due to the presence of maternity colonies nearby. Additionally, the Beech Ridge take estimate methodology uses Indiana bat specific survey data for the state of WV, and similar information is not available in Ohio. Therefore the Beech Ridge take estimate methodology is not appropriate for the Buckeye Wind project. The models used in the DHCP were developed by leading experts in the field (professionals from Stantec Consulting in collaboration with Dr. William Warren-Hicks) and reviewed by other experts (including bat experts within the USFWS, the ODNR and third party review by Dr. Tim Carter, Dr. Allen Kurta and Dr. John Hayes). None of the developers or reviewers of the models has suggested that the results are unreliable or that they should be rejected. The Collision Risk Model developed for the Buckeye Wind project uses a peer-reviewed collision risk model and adapts it using site specific information on Indiana bat occurrence, species-specific biological information, and expert opinion where data is lacking. The inputs, assumptions, and limitations of the collision risk model are clearly explained in Appendix A of the HCP. The Service believes that the collision risk model provides a reasonable estimate of take of Indiana bats for the Buckeye Wind project. A comment was made that the Indiana bat that was captured and tracked 6.3 miles to a roost tree is contrary to the Habitat Suitability Model. All telemetry data, including that of the Indiana bat mentioned previously, were used to build the Habitat Suitability Model. The distance an individual Indiana bat flies does not contradict the Habitat Suitability Model. The data that was collected from each Indiana bat's flight behavior was used to develop the Habitat Suitability Model. None of the assumed Indiana bat behaviors are taken as definitive. Rather, the Habitat Suitable Categories are associated with likely foraging behaviors based on site-specific empirical data and best available science and knowledge. Likewise, the commenter also suggests that the mortalities documented at the Fowler Ridge wind project were likely migrant bats. The HCP assigns

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	Stantec admits that the reliability of data on Indiana bat flight height is uncertain because acoustic studies may not detect bats flying in the rotor swept zone and because radio telemetry data does not record flight height. Collision Risk Model at p. 28. Stantec concedes that the flight height of migrating bats is not known, id. at p. 30, yet the Collision Risk Model assigns percentages of flight heights inside and outside the rotor swept zone. Id. at p. 31. • The Collision Risk Model distributes the Phase II (Champaign Wind) turbines randomly rather than evaluating the actual locations of those turbines as proposed by Champaign Wind in its 2012 Application to the Ohio Power Siting Board. Exhibit 7. At the time the Draft EIS was issued, the Applicant and its parent company, EverPower Renewables, were aware of the areas leased for turbines for the Champaign Wind project and the preferred siting locations for those turbines. That information should be fully incorporated into the studies supporting Buckeye Wind's application. For all of the above reasons, the Preferred Alternative and Minimally Restricted Alternative are not support by reliable scientific evidence and should be rejected. The Service should prohibit take of endangered species from the Buckeye Wind project. As discussed in the Draft EIS's Maximally Restrictive Operations Alternative, take can be avoided by shutting the turbines down at night during the months when Indiana bats are present in the Action Area.	different risk for summer versus migrating bats. The Habitat Suitability Model is not used to assign risk during migration periods precisely because data from Fowler Ridge and other locations suggest that habitat suitability is not a risk factor during fall migration. The commenter raised the issue of reliability of the Collision Risk Model based on the lack of knowledge on flight heights of Indiana bats. The CRM acknowledges this uncertainty but addresses it through the development of 3 different flight heights scenarios. See Appendix A of the HCP, Section 2.4 – Flight Height. The commenter also raised the question of randomly placing the remaining 48 turbines for the purposes of the CRM. The model requires exact locations of the wind turbines. While these exact locations were randomly generated, there were constraint parameters set on the location including: Ohio Power Siting Board standards, economic factors, and feasibility factors. See Appendix A of the DHCP, Section 2.7 – Turbine Design and Location. While the actual location of the turbines may result in slightly different model results, the estimates made using random locations provide a reasonable estimate of risk. The proposed Project is supported by the best available science and the Adaptive Management plan of the HCP will ensure that actual impacts are consistent with the impacts assessed in the HCP.
0089-8	V. The Alleged Benefits Of Off-Site Habitat Conservation Are Speculative As Proposed In The Draft EIS. The Applicant suggests that preserving habitat in the vicinity of an Indiana bat hibernaculum in Ohio would result in a "net conservation benefit" for the Indiana bat. Draft HCP at p. 31. However, neither the Draft EIS nor the Draft HCP demonstrates that acquiring off-site habitat will completely offset mortalities from operation of the Buckeye Wind facility. The Applicant does not propose to conserve specific areas of Indiana bat habitat, but simply commits to conserve or restore an unspecified 200.9 acres in the future. Thus, there is no showing that the acreage that Buckeye Wind may conserve or restore will be suitable for the Indiana bat or that such acreage is in any way threatened or in need of conservation or restoration. If habitat conservation is to be approved as a mitigation measure, the Service should require the Applicant to identify the specific lands that will be protected and restored and the specific benefits to the Indiana bat species from protecting or restoring those lands, and should further require Buckeye Wind to actually acquire or protect that acreage before approving an ITP. The Applicant's habitat mitigation proposal is scaled to "replace" precisely the exact number of	The mitigation plan was derived by examining the recovery strategy provided in the Indiana bat Draft Recovery Plan First Revision (USFWS 2007). The recovery plan describes the means by which the Indiana bat population decline will be halted by removing or reducing threats such that the Indiana bat can survive in the wild without the protection of the ESA. Protection of Priority 2 hibernacula and habitat surrounding them is specifically identified in the Recovery Plan as an action that will contribute to the recovery of the species. Further, the USFWS's Indiana bat Section 7 and Section 10 Guidance for Wind Energy Projects (2011) states that it is valid to identify high priority recovery actions as mitigation measures if these actions will improve reproductive success or survivorship of bats belonging to the same population unit (including maternity colony, hibernating colony, or recovery unit). Section 6.3 of the HCP (Mitigation Measures) describes how the mitigation plan will contribute to

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	Indiana bats that it proposes to kill over the operational life of its facility. Draft HCP at p. 180. Species benefits cannot be predicted to that degree of mathematical precision. Therefore, if the Service determines that habitat conservation or restoration is an acceptable form of mitigation, the Service should require mitigation at a conservative ratio that more than compensates for the mortality authorized under any ITP.	improved reproductive success and survivorship. Biological Objective 2 specifically states that mitigation includes"purchase or easement acquisition and subsequent restoration and/or enhancement (if necessary), with permanent preservation of 87.8 ha (217.0 ac) of *suitable Indiana bat habitat* within 11.2 km (7 mi) of a P2 Indiana bat hibernaculum in OH" (emphasis added). Mitigation lands will have to meet the habitat criteria described in Section 6.3.4 – Restoration and Enhancement. Final selection of suitable areas for mitigation and appropriate restoration actions will be identified in cooperation with the USFWS and ODNR (see Section 6.3.2 – Selection of Mitigation Areas). Therefore, the benefits associated with off-site mitigation at a Priority 2 hibernaculum within the same recovery unit as the project are not speculative. Further, monitoring of the mitigation Project over the permit term will ensure that the mitigation habitat remains suitable to offset the impacts of the taking. If the mitigation habitat becomes unsuitable during the permit term, the adaptive management plan will be implemented to restore the mitigation site to suitable habitat. The commenter also suggests that the DHCP identify "…the specific benefits to the Indiana bat species from protecting or restoring those lands…" and that "neither the Draft EIS nor the Draft HCP demonstrates that acquiring off-site habitat will complete offset mortalities from operation of the Buckeye Wind facility." To avoid confusion, it should be noted that mitigation is meant to "offset the impacts of taking," [16 USC Section 10(a)(2)(B)(ii))] not, as the commenter suggests, to "completely offset mortalities." This is a subtle, but important, distinction. To that end, specific benefits to the Indiana bat, with careful adherence to the principles outlined in the Draft Recovery Plan, are described in detail in section 6.3 – Mitigation Measures. In addition, the commenter suggests that the USFWS "…further require Buckeye Wind to actually acquire or protect that acreage before approving an ITP." Section 6.7 – Funding for the HCP provides specific detail on how funding for the mitigation effort will be assured. Statutes, USFWS guidance, and case law support an argument that an ITP can be issued when funding for purchase of mitigation lands is assured as opposed to the purchase being actually completed. Finally, the commenter requests that the USFWS "…require mitigation at a conservation ratio that more than compensates for the mortality authorized under any ITP." 50 CFR § 17.22(b)(2) requires an

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		applicant for an ITP to document that they have, to the maximum extent practicable, minimized and mitigated the impacts of the taking. It does not require the Service to require more mitigation than is necessary to offset the impacts of the taking. Section 6.3.1 – Acres of Mitigation Calculation describes how the method for calculating the mitigation acreage is already a conservative estimate and it likely overestimates the area needed to offset the impacts of take.
0089-9	VI. The Applicant Has Not Demonstrated That Either The Preferred Alternative Or The Minimally Restrictive Operations Alternative Will Minimize And Mitigate Take Of Endangered Species To The Maximum Extent Practicable. The Draft EIS contains several statements to the effect that the Maximally Restricted Operations Alternative is not economically feasible. E.g., Draft EIS at pp. 5-173, 5-190. However, there is nothing in the Draft EIS or Applicant's Draft HCP that supports such a conclusion. To the contrary, the Applicant merely claims that it will cost more to implement the Maximally Restricted Operations Alternative (or, presumably, other alternatives involving greater degrees of protection than the Preferred Alternative). The HCP states that the Maximally Restricted Operations Alternative will result in a 22.7% reduction in energy generation over the life of the project, resulting in total lost annual revenues of $8.65M. However, using the same financial information, the project will earn an estimated $30M/year under the same assumptions. Neither the Draft EIS nor the Draft HCP contain any evidence indicating that earnings at that level are financially infeasible.4 Section 10 of the Endangered Species Act's requires that an ITP minimize and mitigate take of endangered species to the maximum degree practicable. ESA § 10(a)(2)(B), 16 U.S.C. § 1539(a)(2)(B). The Service's Habitat Conservation Plan Handbook discusses this issuance criterion as follows: The applicant decides during the HCP development phase what measures to include in the HCP (though, obviously, the applicant does so in light of discussions with and recommendations from FWS or NMFS). However, the Services ultimately decide, at the conclusion of the permit application processing phase, whether the mitigation program proposed by the applicant has satisfied this statutory issuance criterion. This finding typically requires consideration of two factors: adequacy of the minimization and mitigation program, and whether it is the maximum that can be practically implemented by the applicant. To the extent maximum that the minimization and mitigation program can be demonstrated to provide substantial benefits to the species, less emphasis can be placed on the second factor. However, particularly where the adequacy of the mitigation is a close call, the record must contain some basis to conclude that the proposed program is the	To avoid confusion, it should be noted that the USFWS did not select a preferred alternative in the EIS. Instead the HCP was described as the Proposed Action in the EIS. To support its claim that the Minimally Restrictive Alternative and the Proposed Action have not been shown to minimize and mitigate to the maximum extent practical, the commenter suggests that the HCP does not show the Maximally Restrictive Alternative to be impractical. The main crux of its argument is that the HCP does not demonstrate that the Maximally Restrictive Alternative is "economically infeasible." The commenter references the HCP Handbook and claims that the HCP does not show that off-site mitigation would provide "substantial benefit" to the species. Therefore, claims the commenter, the Applicant must show that the Maximally Restrictive Alternative is "economically infeasible." The commenter misinterprets the ESA and the HCP Handbook. The HCP Handbook states that, "…where adequacy of the mitigation is a close call, the record must contain some basis to conclude that the proposed program is the maximum that can be reasonably required by the applicant. This may require weighing the costs of implementing additional mitigation, benefits and costs of implementing additional mitigation, the amount of mitigation provided by other applicants in similar situations, and the abilities of that particular applicant." Further, Buckeye Wind is not required to demonstrate that implementation of a higher cut-in speed is "economically infeasible," rather under 50 CFR § 17.22(b)(2) they are required to document that they have, to the maximum extent practicable, minimized and mitigated the impacts of the taking, and that the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild. As a first point, Section 6.6.1 of the HCP (Adequacy of Minimization and Mitigation Program) describes how the Program is adequate and will provide a benefit to the species. Notwithstanding a determination of the adequacy of the Program, and to the extent there must be some basis to conclude that the proposed program is the maximum that can be reasonably required, the HCP provides ample record. Contrary to the

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	maximum that can be reasonably required by that applicant. This may require weighing the costs of implementing additional mitigation, benefits and costs of implementing additional mitigation, the amount of mitigation provided by other applicants in similar situations, and the abilities of that particular applicant. USFWS, Habitat Conservation Plan Handbook at p. 7-3 (Exhibit 13). As discussed above (at p. 11), there is no showing in the Draft EIS or Draft HCP that the proposed mitigation (i.e., off-site habitat conservation) will result in "substantial benefits" to the Indiana bat as a species. The Applicant's off-site mitigation plan, while speculative, has been scaled merely to replace the same 130 Indiana bats for which Buckeye Wind seeks authorization to kill over the life of its project. Draft HCP at p. 180. Such a proposal is hardly a "substantial benefit" to the species. Therefore, without an actual showing that the Maximally Restrictive Operations Alternative is economically infeasible, the Applicant cannot meet the ITP issuance criteria for either its Preferred Alternative or the Minimally Restricted Operations Alternative. See Nat '1 Wildlif e Fed 'n v. Babbitt, 128 F. Supp.2d 1274, 1286 (E.D. Cal. 2000).	commenter's comment, the measure of maximum extent practical is NOT "economically infeasible." In fact, as described in the HCP Handbook and referenced in the commenter comment, concluding that the proposed program is the maximum that can be reasonably required "may require weighing the costs of implementing additional mitigation, benefits and costs of implementing additional mitigation, the amount of mitigation provided by other applicants in similar situations, and the abilities of that particular applicant." That is, the HCP Handbook refers to "weighting the costs" and "benefits and costs" of additional mitigation. Section 6.6.2 of the HCP (Practical Implementation by Buckeye Wind) clearly describes how additional mitigation would be exponentially more expensive and would be disproportionate with any potential increased benefits to the species. The measure of "maximum extent practicable" is not a strict assessment of "economic infeasibility" as is inferred by the commenter. Rather it entails an analysis of the impact of the proposed taking on the species, as well as an analysis of how the mitigation proposal will offset those impacts. If the mitigation fully offsets the impact of the taking, the Applicant has met the "maximum extent practicable" standard. This is described in Section 6.6.1 of the HCP.
0089-10	VIII. The Draft EIS Fails To Consider Reasonable Alternatives Previously Identified By The Service And Commenters. The Draft EIS does not evaluate the following reasonable alternative minimization measures that have been identified either by the Service or by commenters in this matter. In 2008, the Service identified the following minimization measures in recommendations to Babcock & Brown in connection with that entity's contemplated wind energy development in Logan County, Ohio: 1. A cut-in speed of 7 m/s, without adjustment for season or habitat classification; 2. Construction and operation of the facility in phases, i.e., construct and operate 1/5 of total planned turbines with post-construction mortality surveys conducted at all turbines for 2 years before more turbines may be constructed; 3. Ban on forest clearing to protect Indiana bat habitat and roost trees; and 4. Siting of turbines to avoid shadow flicker on known Indiana Bat maternity colony locations. Exhibit 9. These recommendations are equally appropriate for the Buckeye Wind project and are reasonable alternative that must be considered in the Service's NEPA review.	Some of the recommendations referenced by the Commenter were provided by the Service in 2008 regarding a different wind power development. The selection of cut-in speeds analyzed in the EIS considers a range of cut-in speeds between the range that has been tested, as well as full curtailment at night. All of these alternatives will result in reduction in bat mortalities compared to turbines operating per the manufacturer programmed settings. The Service did not analyze an alternative for phased construction because that is not how the proposed Project is defined. Other wind projects (e.g., Beech Ridge HCP, West Virginia) may include an alternative with several phases of development because their project has already constructed the first phase, and the second phase may or may not be developed ultimately. Buckeye Wind proposes to impact no more than 6.8 ha (16.8 ac) of trees, and the effects of this habitat loss on Indiana bats has been analyzed in Section 5.2.1.1 of the HCP. By siting turbines greater than 2.9 km (1.8 mi) from documented maternity roost trees shadow flicker on these trees will be avoided by the proposed action. This information has been added to section 6.1.1 of the HCP.
0089-11	VII. There Is Insufficient Evidence That Increased Cut-In Speeds And Blade Feathering Will Reduce Annual Wildlife Impacts.	To be clear, no "Preferred Alternative" was selected in the DEIS or DHCP. Instead, the applicant identified their "Proposed Alternative."

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	The crux of the Preferred Alternative and the Minimally Restrictive Operations Alternative is that increased cut-in speeds will reduce wildlife mortality because the turbines will operate fewer hours at higher cut-in speeds. The Draft EIS goes so far as to calculate estimated annual take of Indiana bats taking into account the effects of such increased cut-in speeds. However, there is no certainty that increased cut-in speeds will yield the predicted results, since the effect of increased cut-in speeds may be nullified in years with abnormally high winds. Furthermore, the public record is devoid of any project-specific meteorological data that would corroborate the claimed reduction in turbine operation resulting from implementing the proposed cut-in speeds in the Action Area. Finally, studies indicate that migratory tree bats may be attracted to both moving and non-moving blades, and that many bat kills occur during low-wind nights. Draft EIS at p. 5-37. In fact, the Draft HCP mentions a study which found that blade rotational speed was a significant negative predictor of observed collisions and/or barotrauma with turbine blades, suggesting that bats may be at higher risk of fatality on nights with low wind speeds. Draft HCP at p. 170. For all of these reasons, there is inadequate support for the Applicant's assertion that the specific proposed cut-in speeds will result in the predicted reductions in bat mortality at the Buckeye Wind project.	The best available scientific studies clearly demonstrate that use of feathering and cut-in speeds that are greater than the manufacturer cut-in speed significantly reduce bat mortality at wind farms (Arnett et al. 2010, Good et al. 2011, Baerwald et al. 2009, Good et al. 2012). All these studies provide evidence that increased cut-in speeds reduced bat fatalities compared to turbines that operated at the manufacture's cut-in speed. This comment incorrectly makes a number of statements and offers no scientific evidence to support those statements. For example, to clarify the commenter's comments, under the Proposed Action and Minimally Restrictive Alternative, wind turbines will be operated more hours with cut-in speeds set at higher levels at higher winds, as compared to normally operating turbines. This approach has been proven to avoid mortality because bats have been shown to be at greater risk at lower wind speeds. The commenter claims that the effect of increased cut-in speed may be uncertain because the effect of increasing cut-in speeds may be nullified in years with abnormally high winds. There is no evidence to support this hypothesis. Mortality has been shown to be correlated with real-time wind speeds, not annual trends. The minimization plan would require feathering based on actual measured environmental conditions. The commenter correctly points out that blade rotational speed is a negative predictor of observed collisions and/or barotrauma with turbine blades (though research also suggests that bats rarely collide with stationary objects), suggesting that bats may be at higher risk of fatality on nights with low wind speeds. This is exactly the reason that the operational feathering plan for the Project has been shown to reduce bat mortality: the operational feathering plan requires that blades be feathered during low wind speeds.There are multiple peer-reviewed studies documenting that the use of increased cut-in speeds and blade feathering will reduce annual bat mortality.
0089-12	In the Beech Ridge Energy Draft EIS, the Service included as an alternative a cut-in speed of up to 6.7 m/s without adjustment for factors such as season or turbine location. In addition, the Service included an alternative for a reduced number of turbines in the Beech Ridge Draft EIS, but rejected a similar alternative in the Buckeye Wind Draft EIS. Given that the Service considered these alternatives in detail in the Beech Ridge Draft EIS, they are reasonable alternatives for consideration in the Buckeye Wind EIS as well. In our earlier comments in this matter dated March 10, 2010	The Beech Ridge Energy EIS evaluated an alternative which included a reduced number of turbines because this number of turbines is already constructed and operating at the facility. It was reasonable to evaluate an alternative where no additional turbines would be built. The Buckeye Wind Project proposes to construct 100 turbines. It would not make sense for the USFWS to evaluate an alternative with fewer turbines than what is proposed, particularly if the proposed alternative meets the maximum extent practicable standard. The Buckeye Wind EIS evaluates an alternative

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	and June 25, 2010, we emphasized the need for appropriate turbine siting setbacks based on known travel behavior of Indiana bats. Specifically, we proposed setbacks of five miles from known capture-roost sites, ten miles from hibernacula, and appropriate distances from riparian corridors as determined based on available data. We urge the Service to carefully consider our prior recommendations on setbacks and to incorporate these setbacks into the Service's restrictions on the project.	that is more restrictive than the proposed 6.7 m/s cut-in speed referenced in the comment—an alternative with full curtailment at night. The suite of feathering and cut-in speed regimes analyzed in the EIS provides a sufficient range of cut-in speeds to compare effects between alternatives. Regarding the recommendation to site turbines greater than 5 miles from capture-roost sites, USFWS Section 7 and 10 Wind Guidance (USFWS 2011e) describes several methods for identifying the home range of Indiana bats for purposes for wind turbine siting. These methods include: If only capture point, buffer capture location by 5 miles, if only roost tree, buffer roost tree by 2.5 miles, and if telemetry data, connect all documented points into a minimum convex polygon. The Project had available site-specific telemetry data from Indiana bats caught during pre-construction surveys that was used to create a minimum convex polygon, and the DHCP was enhanced through the consideration of that data. No turbines will be sited within the minimum convex polygon home range for the 3 radio-tracked Indiana bats in the northern portion of the Action Area. None of the turbines will be sited closer than 1.8 miles from known maternity roost trees that were documented in 2009. Further siting changes are not practical because it would require that the proposed turbine locations be moved outside of the Action Area. Project planning in the Action Area continued after discussions with the USFWS, and other avoidance and minimization measures were discussed and developed as part of the draft conservation program. In lieu of more site specific data and because maternity colonies may move across the Action Area over time, the Applicant decided to focus on operational feathering regimes as a minimization measure, because this has been documented to reduce take of bats. All turbines will be sited greater than 10 miles from Indiana bat hibernacula.
0089-13	IX. In Light Of The Imminent Threat Of White-Nose Syndrome To Indiana Bats In The Midwest Recovery Unit, The Applicant Has Failed To Demonstrate That Its Authorized Take Proposal Will Not Threaten Recovery Or Survival Of The Species. Any applicant for an ITP must demonstrate, as a condition of permit issuance, that the proposed taking will not appreciably reduce the likelihood of survival and recovery of the species in the wild. 50 C.F.R. § 17.22(b)(2)(i)(D). According to the USFWS Habitat Conservation Plan Handbook, this is a "critically important criterion for incidental take permits because it establishes a fundamental 'threshold' standard for any listed species affected by an	Section 5.1.2.5 of the HCP (Biological Significance of Incidental Take [Collision Mortality]) addresses the biological significance of the take in terms of local maternity colonies and the Midwest RU. In this section, Buckeye Wind describes the impact of the Project on these two sub-population sets in terms of pre- and post-WNS. ITP issuance criteria states that, “the taking will not appreciably reduce the likelihood of the survival and recovery of the species in the wild” (ESA 10(a)(2)(B)(iv). The modeling described in Section 5.1.2.5 of the HCP demonstrated that, regardless of the effects of WNS, the Project will not reduce maternity colony

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	HCP." USFWS, Habitat Conservation Plan Handbook at p. 7-4. In *Wild Fish Conservancy v. Salazar*, 628 F.3d 513, 527 (9 th Cir. 2010), the Ninth Circuit held that the USFWS must identify when a species will likely pass the tipping point for recovery, and determine whether the proposed action will cause the species to reach that tipping point. There is nothing in the Draft EIS, however, that addresses that critical issue as it relates to the recovery of the Indiana bat. The Commenters acknowledge that the Service intends to address the issue of recovery and survival of the Indiana bat in a separate Biological Opinion. However, the Commenters wish to point out that the Applicant's entire treatment of this issue in its Draft HCP is based on the invalid assumption that White Nose Syndrome (WNS) will result in the inevitable extirpation of Indiana bats in the Midwest Recovery Unit. Draft HCP at p. 140. The Applicant's consultant then reasons that since it is inevitable that the Indiana bat will be eliminated in the Midwest Recovery Unit, mortality from the Buckeye Wind project is inconsequential. Id. However; while the 73% reduction in cave bat species from WNS is a very serious threat to the survival and recovery of the Indiana bat, Draft HCP at p. 139, the data trends to date do not establish that extirpation of the species is inevitable. To the contrary, the possibility of saving the Indiana bat from extinction will depend on the protection of every individual member of the species. The Midwest RU is by far the most populous of the Indiana bat Recovery Units designated by the USFWS. Draft EIS at p. 4-43. Thus, preservation and recovery of the Indiana bat depends on effective protection in the Midwest RU.	or the Midwest RU population to a non-viable population level appreciably sooner as a result of the Project than it would as a result of WNS in the absence of Project-related take. This fits with guidance from the USFWS Indiana Bat Section 7 and Section 10 Guidance for Wind Energy Projects (USFWS 2011e), which states that the USFWS would issue a no-jeopardy opinion if a project by itself would not "appreciably reduce" the likelihood of survival of the Indiana bat. The modeling in the HCP demonstrates that there would be no appreciable reduction on the survival or recovery of the species due to Project-related take. These findings will be given proper consideration when the FWS prepares its Biological Opinion and addresses the issue of recovery and survival of the Indiana Bat.The commenter's assertion that *Wild Fish Conservancy v. Salazar*, a Ninth Circuit case, requires the FWS to identify when a species will likely pass the tipping point for recovery is an inaccurate summary of that case. In *Wild Fish Conservancy v. Salazar*, the court determined that the FWS' Biological Opinion failed to articulate a rational connection between the Service's factual findings and its ultimate conclusion that the action would not cause jeopardy at the recovery unit scale. The Ninth Circuit held that the FWS is obligated to articulate a rational connection between the facts found and the conclusions made. The FWS' Biological Opinion in this matter will comply with this obligation. The commenter also suggests that the approach employed in the HCP considers it "inevitable that the Indiana bat will be eliminated from the Midwest RU." This is not the case. Instead, the HCP evaluates the population trends using the documented population reductions from WNS based on New York data from 2007 to 2011 with and without Project-related mortality. The HCP makes no claim that the USFWS would and should authorize take of an endangered species by a project no matter what the status of the species. It is also important to note that the analysis in HCP Section 5.1.2.5 utilizes losses from WNS similar to those seen in other RUs, as is requested by commenter in its comments. It should also be noted that the 50% reduction in take that is included in the HCP is proposed as an added measure that the Applicant has voluntarily included to further account for inherent uncertainty in the effects that WNS will have on Indiana bat populations. The USFWS will evaluate the impact of the taking relative to the jeopardy standard within its Biological Opinion.
0089-14	Given the threats posed by WNS, the Service should not authorize any take of Indiana bats from the Buckeye Wind project. If the Service does authorize take of Indiana bats, however, the authorized take figure should be set at a level	The analysis of the impacts to the species in the HCP includes consideration of population declines due to WNS in New York from 2007 to 2011 within the baseline analysis. Furthermore, Buckeye

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	that presumes losses from WNS similar to those seen in other RUs. The Service should not permit an after-the-fact adjustment of the authorized take figure as proposed by the Applicant.	Wind has committed to reducing their requested take if WNS reduces the population by 50% to try and further minimize the impacts of the taking on the population. The Biological Opinion will analyze the impact of the taking associated with the Project among other threats faced by the species, including WNS.
0089-15	X. If The Service Issues An ITP, The Service Should Consider The Suitability Of The Take Limit Methodology Proposed In The Beech Ridge Draft EIS. The Applicant proposes an authorized annual take of 5.2 Indiana bats per year and 26 Indiana bats per five-year period. Draft EIS at p. 5-55. As discussed above, the Applicant generated these take estimates based on elaborate modeling that relies on inadequate data and unsupported assumptions concerning seasonal populations and behavior in the Action Area. Beech Ridge Energy, on the other hand, proposes an annual authorized take of 2.5 Indiana Bats/year based on alternative cut-in speeds of 3.5-4.8 m/s 5 implemented from July 15 through October 15. This proposed authorized take figure is based not on statistical modeling, but on actual data on bat mortality at similar operating wind energy facilities. The Service should consider whether Beech Ridge's proposal to use the Little Brown bat as a surrogate for the Indiana bat is an appropriate basis for calculating and monitoring take of Indiana bats in connection with the Buckeye Wind project.	Various methods for estimating take have been proposed. Depending on the available data and project characteristics, the Applicant and the USFWS are tasked with determining which methodology is appropriate for the Project. It was determined that Collision Risk Model approach was superior to the surrogate model in this case for a variety of reasons, primarily due to the existence of site-specific data. The USFWS considered several methods for estimating take of Indiana bats at the Buckeye Wind Project. The method used for the Beech Ridge project only addresses potential fall migration mortality, and does not consider the potential for spring or summer take due to the presence of maternity colonies nearby. Additionally, the Beech Ridge take estimate methodology uses Indiana bat specific survey data for the state of WV, and similar information is not available in Ohio. Therefore the Beech Ridge take estimate methodology is not appropriate for the Buckeye Wind Project. The Collision Risk Model developed for the Buckeye Wind Project uses a peer-reviewed collision risk model and adapts it using site specific information on Indiana bat occurrence, species-specific biological information, and expert opinion where data is lacking. The inputs, assumptions, and limitations of the collision risk model are clearly explained in Appendix A of the HCP. The USFWS believes that the collision risk model provides a reasonable estimate of take of Indiana bats for the Buckeye Wind Project.
0089-16	XI. The Proposed Mortality Monitoring Fails To Consider Reasonable Alternatives Previously Identified By The Service. In the event the Service issues an ITP for the Buckeye Wind project, the mortality monitoring program should include the following elements required in the USFWS Draft Recommendations to Babcock & Brown (Exhibit 9): • Searchers should utilize trained dogs for the searches; • Area under the turbines should be kept mowed; • If a carcass cannot be identified, DNA analysis is required to identify the species; • Unidentified bats must be counted as Indiana bats; • From April 1 through August 15, any female Indiana bat carcass must be counted as two Indiana bat fatalities; In addition, because the Applicant's consultant did not find any of the Indiana bats that were discovered in the Action Area, all monitoring should be performed by a third party under contract with the FWS, but funded by the Applicant.	The proposed mortality monitoring protocol for the Buckeye Wind Project uses peer-reviewed methods of conducting post-construction mortality searches for birds and bats at wind facilities. It does include the use of cleared search plots for 25% of the turbines (see Section 6.5.2.6 of the HCP [Weather Monitoring]). It does include DNA analysis for *Myotis* species identification, if the species cannot be readily identified by the USFWS or ODNR (see Section 6.5.2.8.1 of the HCP [Data Collection]). The use of search dogs was considered as an option, and can be used in the future if determined to be a viable method of monitoring that is readily available (see Section 7.2.1.9 of the HCP [Use of New Methods, Information and Technological Advances]). Monitoring will be conducted by a third party consultant qualified to conduct post-construction mortality monitoring (see Section 6.5.2 of the HCP [Methods for Minimization

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		Monitoring]). The Applicant will contract with and pay the consultant to do the work, but the USFWS and ODNR will approve the selection of the consultant. The USFWS will review the monitoring methods and results and reports to ensure that the work is being done as described in the HCP. Further, the USFWS will have a permit condition that allows us to access the Project site for monitoring purposes. The HCP provides that any female Indiana bat carcass found between April 1 and July 15 will be counted as two. This is based on accepted definition of the summer reproductive period and research (Kurta and Rice, 2002 and Humphrey, et al., 1977) that has shown about 90% of captured females are in reproductive condition during this time. There is no evidence that the treatment of females should extend to mid-August as juveniles generally become volant after mid-July.
0089-17	XII. The Applicant Is Not Entitled To A Thirty-Year ITP Term When Its Project Has A Planned Operational Life Of 25 Years. The Draft HCP states that the proposed take limits are for the 25-year period during which the turbines are operational. Draft HCP at p. 127. However, the Applicant has applied for a 30-year ITP. The Applicant justifies the additional five-year term by speculating that the ITP authorization would apply "in the unlikely event that take did occur" during construction, decommissioning, and mitigation activities. Id. At the same time, however, the Applicant states that no take is expected as a result of such activities, and the Draft HCP contains no data to quantify the amount of such take or the likelihood thereof. Therefore, the Applicant has not met the issuance criteria for ITP authorization pertaining to construction, decommissioning, and mitigation activities. A 30-year ITP term will have no other purpose than to skew the proposed five-year authorized take calculations at the beginning and end of the permit term. In other words, if no Indiana bats are killed during Year 1 of the ITP because the facility is constructed during that year, the Applicant would have a free pass to kill a greater number of Indiana bats during Years 2-5. Such a result is not warranted; especially because the Applicant's anticipated take figures are unjustifiably high to begin with. Although the Commenters submit that an ITP should not be issued to the Applicant even for operation of its turbines, if the Service determines that an ITP is appropriate, the term of such permit should be limited to the period of operation of the turbines and no longer.6	It is not anticipated that any activities associated with construction, maintenance, and decommissioning will rise to the level of take. However, Indiana bats will occur within the Action Area during portions of the construction, maintenance, and decommissioning, so there is a possibility that harm or harassment could occur from disturbance or displacement. Therefore, the ITP should cover these activities. Therefore, Buckeye Wind believed it was prudent to obtain take coverage for construction, maintenance, and decommissioning activities, which makes full life of the Project 30 years even though the operating life of the Project is 25 years. The commenter also comments if no Indiana bats are killed during Year 1 of the ITP because the facility is constructed during that year, the Applicant would have a free pass to kill a greater number of Indiana bats during Years 2-5. It is not accurate to state that the Applicant could kill more bats in Years 2-5 if no Indiana bats are taken in Year 1. There is adaptive management that would be triggered in the case where take is greater than 5.2 in any year (See Section 6.5.3 of the HCP [Adaptive Management for Minimization]). Furthermore, there are trigger points for immediate adaptive management based on the timing of Indiana bat fatalities in any year of post-construction monitoring. Regardless of these adaptive management actions, the operational period to be permitted is 25 years and the maximum take to be permitted is 130 bats.
0090-1	Throughout the development of this draft HCP and relevant documents, the ODNR DOW has provided comments to the contents and approach; many have been addressed by Buckeye Wind LLC and are relevant. The ODNR DOW appreciates the efforts made by Buckeye Wind LLC to	Thank you for your comment.

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	consult with the state wildlife agency.	
0090-2	Additionally, ODNR DOW recognizes the potential reductions in overall bat mortality with Buckeye Wind LLC's proposed operational adjustments detailed in the draft HCP.	Thank you for your comment.
0090-3	Furthermore, ODNR DOW commends the efforts made by the USFWS Columbus Field Office, to include the concerns of the state, and to seek the balance between energy development and conservation of species.	Thank you for your comment.
0090-4	ODNR DOW appreciates Buckeye Wind LLC incorporating an ODNR DOW approved post-construction monitoring protocol for the first 2 years of operation and including a sample of turbines that are searched every day (as noted specifically in the draft ABPP).	Thank you for your comment.
0090-5	ODNR DOW has previously and still recommends to Buckeye Wind LLC that the turbines searched every day are conducted on clear plots.	The HCP has committed that 25% of the plots will be mowed or cleared. The goals and objectives of the HCP are met by searching all turbines on a 3-day search interval. Both the HCP and the ABPP, however, commit to implementing a post-construction monitoring plan that is approved by the ODNR DOW.
0090-6	Searcher efficiency trials, scavenger rate trials, vegetation mapping, and other ODNR DOW required wildlife surveys should follow the approved standardized protocol, as stated in the draft HCP.	The Applicant commits to searcher efficiency trials, scavenger rate trails, vegetation mapping and other ODNR DOW required wildlife surveys that follow protocol approved by the ODNR DOW. The Applicant would like to clarify that, through continued coordination with the ODNR DOW, the final approved protocol may not strictly adhere to the current "standardized" protocol dated May 4, 2009 (amended June 2012) published by the ODNR DOW, but will adhere to protocol reviewed and approved by the ODNR.
0090-7	ODNR DOW agrees to review post-construction monitoring data and results after 1 full year to assess the need to continue at the same level of survey intensity for the second year.	Thank you for your comment.
0090-8	We respectfully request the continued inclusion and cooperation with our agency in all reporting, as well as, any adjustments that may be made to the proposed monitoring.	The Applicant will continue to include the ODNR in all reporting as well as any adjustments that may be made to the proposed monitoring. The HCP specifies that all reports will be submitted to the ODNR DOW as well as the USFWS.
0090-9	As a condition of Buckeye's OPSB certificate, the final post-construction monitoring protocol for the first 2 years at the facility detailing turbines searched and monitoring start date should be submitting to ODNR DOW, OPSB staff, and the USFWS at least 60 days prior to the operation of the first turbine.	The Applicant intends to meet or exceed all conditions of the OPSB Certificate, which includes requirement for submitting post construction monitoring plans.
0090-10	At this time, the ODNR DOW does not have explicit authority to authorize a take permit for any state-listed species, including Indiana bats. However, as previously mentioned the ODNR DOW supports renewable energy development in Ohio using standardized and best	The Applicant continues to work with the ODNR DOW to assess the viability of signing a cooperative agreement.

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	management practices that minimize the potential impacts to wildlife resources. Thus, in the absence of such a permit, it has been and continues to be the ODNR DOW recommendation to sign a cooperative agreement, that details best management practices to avoid, minimize, and/or mitigate potential adverse impacts to wildlife and native plant resources within the state as well as how the parties of the Agreement will work cooperatively together to resolve issues that may arise.	
0090-11	The draft HCP stated that mitigation will occur in close proximity to an Ohio Priority 2 Hibernaculum or "purchase credits from a USFWS approved Indiana bat mitigation bank." Because Ohio's Indiana bat population could be more directly impacted by this facility's take of individual bats than the regional population, ODNR DOW requests continued and further consultation with any mitigation efforts. ODNR DOW believes all mitigation for this project should be within Ohio and not at the larger USFWS Recovery Unit scale. We respectfully request that ODNR DOW be included in the approval of any alternatives considered, to include mitigation banks.	As provided in the HCP, the Applicant will include ODNR DOW in all aspects of mitigation efforts. The HCP also provides that mitigation lands will be located Ohio. The establishment of a mitigation bank would be a process that would occur outside the scope of this HCP and ITP. The HCP defines the conditions under which a mitigation bank may be approved for use for the Project, one condition of which is that the mitigation bank includes lands within Ohio.
0091-1	Let me get this straight, Buckeye Wind LLC/Everpower Holdings LLC can buy property in another County that has known Indiana Brown Bat hibernacula, maintain it as a bat haven and this will offset any bats that they whack or in this case explode/implode with their 50 turbines in Phase 1 and another 50 or more (500 foot tall) turbines in Phase 11 in Champaign County. Unbelievable! I would think that common sense would indicate that Buckeye Wind/Everpower should not be able to buy property elsewhere to offset the bat kill in Champaign County.	Indiana bats migrate between hibernacula and summer foraging areas. In other words, bats that are part of summer maternity colonies in Champaign County will not stay in Champaign County throughout the winter. By protecting land around hibernacula that is nearest to Champaign County, the Applicant not only improves the reproductive success of bats that use that hibernacula, thereby improving the health of the species as a whole, it also maximizes the likelihood that those mitigation efforts help bats that do use Champaign County during summer roosting. The overall benefits to the species are described in detail in Section 6.3 of the HCP (Mitigation Measures).
0091-2	Then of course someone needs to count coup within the footprint of the project here as to how many bats are whacked. At the July 12, 2012 Community meeting with USFW one of your nice young employees attempted to reassure me about how meticulous and scientific the count is. I'm sorry but I can't get rid of the mental picture that I have ofthe coup counting person running through bean fields and tall corn in the middle of the night under whirling thumping turbines holding a large flashlight.	Mortality monitoring will not be conducted at night. Rather, searchers will scan the areas directly under the turbines in the morning. Searches in corn/soybean fields can be difficult to search and as such, there are a number of methods that have been developed to account for that difficulty. In the first place, 25% of turbines will be kept mown, so that corn and soybeans cannot disrupt the searches. For those search areas that are not mown, information on ground cover is used in the calculation of the correction factors that allow researchers to estimate the number of unobserved mortality that occurred at the site. This estimate of unobserved mortality is based on carcass removal rates, searcher efficiency and calculation of the searchable area. These methods are explained in HCP Sections 6.5.2.7.1 (Searcher Efficiency Trials) and 6.5.2.7.2 (Carcass Persistence Trials).
0091-3	He/she is in pursuit of a fox or raccoon with a mouth full of	Section 6.5.2.7 of the HCP (Estimating Unobserved

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	Indiana Brown Bat. I wonder how successful the count can be if the counter can't run faster than a fox or even find the animal in the corn. If this person does catch up with the predator what happens next? Does he/she grab it by the tail and pry open its little mouth to see if it indeed is dining on an Indiana Brown Bat or a less endangered second cousin?	Mortality) provides detailed information on how calculation of unobserved mortality is made. Carcass persistence trials are conducted at the site, each year that monitoring occurs. Carcass persistence trials basically include placement of sample carcasses on the ground in the search areas. The carcasses are then monitored to determine the average time that a carcass will remain on the ground before a scavenger will remove it. That average time is then incorporated in the statistical calculation for unobserved mortality.
0091-4	I assume that you are familiar with the Boston University Study that indicates that the combined bat kill \ by wind turbines and white nose disease may cost farmers in Champaign County in excess of $12,000,000 in pesticides to compensate for the bat loss.	Operation of the proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to birds and bats. The resulting magnitude of impacts of the Project on local and regional bat populations would be so small as to not appreciably reduce the pest control benefits of bats and warrant increased pesticide use.
0091-5	Some pesticides are known to be carcinogenic some are not yet known. Does anyone out there care about the people of Champaign County? We have already been told that we have an extremely high cancer rate.	While operation of the Proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to Indiana bats, those measures will also substantially reduce impacts to all bat species. The resulting impact of the Project is not expected to appreciably reduce local and regional bat populations and would not reduce the pest control benefits of bats or warrant increased pesticide use.
0091-6	I understand that your job does not include impact on people, but you must know that significant kill of one species in a limited area can have a trickledown effect and harm other species particularly with the addition of $12,000,000 in pesticides.	The cumulative effect of wind power impacts on migratory birds and Indiana bats and non-listed bats is included in the EIS Sections 5.15.4 and 5.15.5, respectively.
0091-7	We are a rural residential area. The more than 1,000 homes and the several thousand people that live within the footprint of this ill-conceived and poorly sited industrial wind project will certainly be negatively impacted. We do not need a higher cancer rate or higher operating cost for farmers who are not lease holders.	The EIS evaluates the consequences of the Proposed Action and alternatives on the local community (socioeconomic and health effects) and the environment. The EIS also defined the siting criteria used in the design of the proposed Project, which is consistent with OPSB requirements.
0091-8	Because of the large number of people who are within the project area and the number of Indiana bats (estimated summer population 2,271 and migration up to 5,800), I believe that USFW should select the No Action alternative and deny Buckeye Wind the requested ITP.	Thank you for your comment.
0091-9	It should be require the project operate under Alternative A, (Maximally Restricted Operations).	Thank you for your comment.
0091-10	In addition the following should be used to properly identify and count Indiana bats; trained searched dogs, DNA, mowed areas under turbines, an unidentified bat should be counted as an Indiana Brown Bat, and from April 1 to August 15 a female Indiana bat carcass should be counted as two fatalities.	While dogs have shown some promise for being able to assist searchers and may become a viable method of monitoring in the future, that is not the case current. The procurement, training, boarding and handling of dogs would present significant logistical challenges. As well, the use of dogs and a standard protocol for these types of searches has not been established. Having said that, Section 7.2.1.9 of the HCP (Use of New Methods,

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		Information or Technical Advances), provides for the use of dogs in mortality monitoring should that approach become available. Section 6.5.2.8.1 of the HCP (Data Collection) includes a detailed description of how carcasses will be collected, identified and reported. Any confirmed or suspected Indiana bat will be reported to the ODNR DOW and USFWS within 24 hours and positive ID will be made using a mutually acceptable approach. Any negative identification must be verified by the ODNR DOW and USFWS. DNA sampling of every carcass would be extremely costly and is not necessary. Every bat carcass will, at the least, be either verified as not an Indiana bat, or will be confirmed as being an Indiana bat. That is, while some bat carcasses may be designated "unknown," those bats will be verified as not Indiana bats, and therefore, will not need to be counted as Indiana bats. Additionally, the HCP allows for DNA testing if deemed necessary on *Myotis* carcasses in order to verify the species. The HCP has committed that 25% of the plots will be mowed or cleared. The goals and objectives of the HCP are met by searching all turbines on a 3-day search interval. Both the HCP and the ABPP, commit to implementing a post-construction monitoring plan that is approved by the ODNR DOW. The HCP provides that any female Indiana bat carcass found between April 1 and July 15 will be counted as two. This is based on accepted definition of the summer reproductive period and research (Kurta and Rice, 2002 and Humphrey, et al., 1977) that has shown about 90% of captured females are in reproductive condition during this time. There is no evidence that the treatment of females should extend to mid-August as juveniles generally become volant after mid-July.
0092	Ohio Farm Bureau--duplicate of comment FWS-R3-ES-2012-0036-0028	See Responses to 0028.
	12 letters supporting the project, all submitted in one package. Comments itemized below.	Thank you for your comment.
0093-1	Coal emission in our air hurts not only the human population but all the birds which fly in our sky. This includes our bats.	Thank you for your comment.
0093-2	The bats take in the same pollution that humans do. But the bats have smaller lungs so they cannot clear this pollution from their lungs as quickly as we do.	Thank you for your comment.
0093-3	Wind power puts nothing in the air but air, and they turn very slowly. I do support the wind project and believe the plan in place will protect bats.	Thank you for your comment.
0093-4	The proposed plan will protect the bats and our environment. The proposed plan will protect the bats and wildlife. I support the project and proposed conservation plan that will protect our local bat population. I totally	Thank you for your comment.

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	support Buckeye Wind's efforts to protect the Indiana Bat.	
0093-5	And project will be good for community.	Thank you for your comment.
0093-6	This plan will be enough to protect bats and allow Buckeye Wind Project to move on with their plan. We support the Buckeye Wind Project. In our opinion the Buckeye Wind Project will be the best economic move for this area since Honda of America.	Thank you for your comment.
0093-7	I support the proposed plan and wind power project. I feel the project will be great for the community and county. We support the Buckeye Wind Project and the proposed Habitat Conservation Plan. The project will benefit the environment and our community.	Thank you for your comment.
0093-8	I feel that the project proposed is more than adequate for the protection of the bats. We feel this is an important investment in the community.	Thank you for your comment.
0093-9	I believe that this Plan will protect Indiana Bat and the wind turbines will give us clean cheap energy.	Thank you for your comment.
0093-10	Buckeye's Wind plan will protect the wildlife while benefitting our community and nation with clean and low cost power. The plan is reasonable and effective. I urge you to approve the requested permit.	Thank you for your comment.
0094-1	I believe Everpower & Buckeye Wind have been very sensitive to its environmental impact and try to conform in every way possible to protect the Indiana Bat, birds, etc.	Thank you for your comment.
0094-2	We look forward to seeing this project built. I believe in wind power as a logical energy source.	Thank you for your comment.
0095-1	U.S. EPA supports the development of renewable energy resources, as recommended in the National Energy Policy Act of2005 and President Obama's New Energy for America plan, in an expeditious and well-planned manner. Using renewable energy resources such as wind power can help the nation meet its energy requirements while reducing greenhouse gas emissions.	Thank you for your comment.
0095-2	Based on our analysis, U.S. EPA rates the Draft EIS as "LO" (Lack of Objections). Please see the enclosed "Summary of Rating Definitions." U.S. EPA has no objection to the preferred HCP proposed by USFWS. Mitigation for the potential impact of the authorized take will be provided by the conservation program described in the HCP. Although we have no objection to the proposed action and HCP, we recommend the Final EIS clarify the following points in the Final EIS.	Thank you for your comment.
0095-3	We commend avoidance of all wetlands within the project area. Additionally, we find the use of tables to present summary information for stream impacts (Table 5.2-1) very helpful to understand impacts at a glance. The Draft EIS indicates access roads, collection lines, and crane paths for the 100-turbine proposed project would cross no more than 32 streams and cause no more than 380.3 linear meters (1,248linear feet) of impact. The Draft EIS also indicates that a Nationwide Permit will be obtained from the U.S.	The Final EIS discusses temporary versus permanent stream impacts in Section 5.2.2.1 (Avoidance and Minimization Measures: Construction-related Effects). It is expected that all collection line and crane path stream impacts will be temporary in nature. These impact areas will be restored per the conditions of the appropriate United States Army Corps of Engineers (USACE) permit(s), NPDES permits and the erosion and

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	Army Corps of Engineers for project-related crossings of Waters of the United States. However, the EIS is unclear if these will be permanent or temporary impacts. It is expected that temporary stream impacts can be restored. The Final EIS should discuss temporary versus permanent stream impacts associated with stream crossings, restoration measures to be taken, and associated mitigation (if applicable).	sediment control plan. For additional details please see Section 5.2.1.2 of the HCP (Impacts to Aquatic Habitats). Access road impacts are expected to be permanent. These permanent impacts will be appropriately permitted through the USACE permit(s). No mitigation for any stream impacts is expected to be required under the appropriate USACE permit(s). The Final EIS discusses temporary versus permanent stream impacts.
0095-4	Stream bank minimization and mitigation measures include clearing minimal amounts of vegetation followed by stabilizing the soil using native plants. We recommend that the Final EIS include a list of native plants suitable for stream bank revegetation that will be utilized during restoration activities.	A list of a typical native mix has been added in Section 6.2.1 of the HCP (Project Construction) and Section 5.2 of the EIS (Water Resources).
0095-5	Although turbines will not be located directly in floodways, several turbine clusters would be located within mapped 100-year floodplains. The Final EIS, should clarify whether floodplain mitigation will be required. If floodplain mitigation is required, additional information on floodplain mitigation, including required mitigation ratios, locations, and narrative information should be provided in the Final EIS.	Typically, floodplain mitigation is only potentially required if significant impervious area development occurs within the floodways or floodplain. Based on the minimal overall amount of disturbance and impervious area being created in the floodplain, no floodplain mitigation is anticipated. The Final EIS clarifies that floodplain mitigation is not anticipated in Section 5.2.2.1 (Avoidance and Minimization Measures: Construction-related Effects).
0095-6	The Draft EIS states that "when only underground collection lines cross perennial streams (i.e., no co-location of road crossings)...perennial streams crossings would utilize directional boring to avoid impacts. For intermittent or ephemeral streams, trenching would be done when the stream is dry." U.S. EPA supports directional boring of underground utilities to avoid direct stream impacts. However, there is a possibility that intermittent streams may not be dry during construction timeframes; as such, the assumption that open trenching will be done during no-flow conditions may not be possible. In the event that any intermittent or ephemeral streams have active flow at the time of construction, U.S. EPA recommends that a commitment be made to directionally bore the installation rather than open-trench through open stream flow. This commitment should be made in the Final EIS.	Every effort will be made to ensure that collection line installation through intermittent and ephemeral streams occurs when these streams are dry. The Final EIS Section 5.2.2.1 was amended to include a commitment that any intermittent and ephemeral streams that may be crossed by collection lines when water is present will be crossed using directional boring.
0095-7	Because the project area lies within the geographic range of the eastern massasauga rattlesnake, the potential for impacts to this species and its habitat were analyzed. As a result of a field review and wetland delineation, one area of suitable habitat within the project area, a 20-acre wetland, was identified. Project facilities will avoid this habitat; however, construction activities will occur near this wetland. As a result of Buckeye collaborating with the USFWS and the Ohio Department of Natural Resources, the access road that was previously located in close proximity to the wetland has been relocated and will be built at least 50 feet away from the wetland. We request this discussion be supplemented with additional information in the Final EIS related to how the 50 ft. buffer was determined and whether a larger buffer would be more protective of the	The one wetland area within the Action Area that provides suitable habitat for the eastern massasauga will not be directly affected by the proposed Project. The wetland is surrounded by active agricultural fields, so if massasaugas do occur here, it is likely that they are restricted to the existing wetland area and do not traverse far outside of this area into active agricultural fields. By implementing a 50-foot setback from the wetland, no direct effects to the wetland will occur during construction of the road, and the likelihood that a massasauga will move out of the wetland area onto the road also decreases. This 50-foot setback, coupled with fencing the construction zone with snake fencing and implementing a permanent speed

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	suitable habitat and species.	limit is sufficient to avoid take of massasaugas, should they occur within the wetland.
0096-1	It is evident to us that no problem exists with the Indian Bats protection and the Wind Turbine Protection.	Thank you for your comment.
0096-2	We greatly support Buckeye Wind's efforts to protect and enhance wildlife and the tremendous lengths they have gone to as they work closely with local authorities of USFW.	Thank you for your comment.
0096-3	Buckeye Wind Power will largely benefit our community, state, and nation while protecting our wildlife.	Thank you for your comment.
0096-4	Our local school district alone will see financial resources of over $800,000.	Socioeconomic impacts are discussed in Section 5.9 of the EIS.
0096-5	The community both locally and state will see a boost in their economy (as well as nation) in the extra taxes farmers will pay on their turbine income.	Socioeconomic impacts are discussed in Section 5.9 of the EIS.
0096-6	The proposal is a balanced approach to species protection and energy production, providing an improved environment for wildlife and people.	Thank you for your comment.
0096-7	Everpower need to be recognized and applauded for their work with the USFWS for taking a year to develop the first Indiana Bat Protection Plan in the United States.	Thank you for your comment.
0096-8	Everpower and all its representatives have and are working very hard to meet and go above and beyond to bring safety to the environment and the community. They area honest, upfront, responsible company.	Thank you for your comment.
0097-1	I reside within the footprint of the referenced project and am writing to urge that the project be denied or, alternatively, the Buckeye Wind project be required to operate under Alternative A (Maximally Restricted Operations).	Thank you for your comment.
0097-2	I also request that consideration of this project be delayed until the eight state Habitat Conservation Plan is established.	The USFWS has received an application for an Endangered Species Act Section 10(a)(1)(B) permit and is evaluating it as required under 50 CFR §17.22(b)(2) and §13.21. While the Midwest Wind Energy Multi-species HCP and EIS are underway, they are in the early stages of development. Additionally, the Midwest Wind Energy Multi-species HCP and EIS will have to address all existing wind projects, including the Buckeye Wind Project, as part of the baseline conditions. The Buckeye Wind HCP is for a single project in a specific location, it is not a regional proposal and it is not proposed for the same geographic area as the Midwest Wind Energy Multi-species HCP.
0097-3	Further, I wish to register my objection to the comments filed in this case by Everpower Wind's leaseholders and employees. These individuals have not disclosed their affiliation with the project or the extent to which they will derive monetary benefit from the least restrictive habitat conservation plan.	Thank you for your comment.
0097-4	The Buckeye Wind project is poorly sited in a populated area where approximately 1,000 homes are situated. The area contains 40% of the assessed residential real estate	As indicated in several professional and academic studies, no conclusive evidence is available to suggest that property values decrease when a wind

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	value of Champaign County.	farm is placed in proximity to a residential structure. However, the studies also indicated that perception can play a role in determining the value of a property. A more detailed discussion of property values is included in Section 4.9 of the EIS (Socioeconomics and Environmental Justice).
0097-5	Families residing in the area enjoy outdoor recreation amenities including two eighteen-hole golf courses (with many shagbark hickory trees), a hunting club, and numerous horse stables and riding facilities. Many residents have gardens (both private and commercial), crop farms and livestock.	Thank you for your comment.
0097-6	Everpower's application quotes the US Bureau of the Census as projecting a population growth of 16% over the next ten years.	Across the five county analysis area, the population is expected to increase by 8.4 percent from 2010 - 2020 (see Table 4.9-1 of EIS).
0097-7	It is believed the site was chosen for its relative proximity to transmission lines. This proximity enables the developer to achieve greater profitability from an otherwise mediocre wind resource.	Thank you for your comment.
0097-8	Consideration of the current population – both human and wildlife – was not a factor in the company's location decision.	Sections 5.4, 5.5, and 5.7 of the EIS evaluate effects to wildlife, Endangered Species, and Land Use.
0097-9	It is wrong for the USFWS to endorse the Buckeye Wind HCP and ITP given that the impact to the human and avian communities will be so pronounced.	The USFWS has never "endorsed," the proposed project, rather the USFWS has received a permit application and is evaluating it.
0097-10	My family and I own close to 1,000 acres of farmland within the project footprint. Attached is an article from Science Magazine that appeared in 2011. It is alarming to read of the long term adverse effects caused by wind turbines on agriculture. This is a compelling reason to deny the plan or to require Alternative A. An excerpt from this article[2] notes:	Impacts to land use are addressed in Section 5.7 of the EIS.
0097-11	Although much of the public and some policy-makers may view the precipitous decline of pats in North America as only of academic interest, the economic consequences of losing so many bats could be substantial. For example, a single colony of 150 big brown bats (*Eptesicus fuscus*) in Indiana has been estimated to eat nearly 1.3 million pest insects each year, possibly contributing to the disruption of population cycles of agricultural pests (8). Other estimates suggest that a single little brown bat can consume 4 to 8 g of insects each night during the active season (9, 10), and when extrapolated to the one million bats estimated to have died from WNS, between 660 and 1320 metric tons of insects are no longer being consumed each year in WNS-affected areas (11). Estimating the economic importance of bats in agricultural systems is challenging, but published estimates of the value of pest suppression services provided by bats ranges from about $12 to li173/acre (with a most likely scenario of $74/acre) in a cotton-dominated agricultural landscape in south-central Texas (12). Here, we extrapolate these estimates to the entire United States as a first assessment of how much the disappearance of bats	Operation of the proposed Project or Maximally Restricted Alternative would employ measures to minimize impacts to birds and bats. The resulting magnitude of impacts of the Project on local and regional bat populations would be so small as to not appreciably reduce the pest control benefits of bats and warrant increased pesticide use.

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	could cost the agricultural industry [see supporting online material (SOM)]. Assuming values obtained from the cotton-dominated agroecosystem in Texas, and the number of acres of harvested cropland across the continental United States in 2007 (13), we estimate the value of bats to the agricultural industry is roughly $22.9 billion/year. If we assume values at the extremes of the probable range (12), the value of bats may be as low as $3.7 billion/year and as high as $53 billion/year. These estimates include the reduced costs of pesticide applications that are not needed o suppress the insects consumed by bats (12). However, they do not include the "downstream" impacts of pesticides on ecosystems, which can be substantial (14), or other secondary effects of predation, such as reducing the potential for evolved resistance of insects to pesticides and genetically modified crops (15). Moreover, bats can exert top-down suppression of forest insects (1, 2), but our estimated values do not include the benefit of bats that suppress insects in forest ecosystems because economic data on pest control services provided by bats in forests are lacking. Even if our estimates are halved or quartered, hey clearly show how bats have enormous potential to influence the economics of agriculture and forestry. Although adverse impacts of WNS on bat populations have occurred relatively rapidly, impacts of wind energy development appear to pose a more chronic, long-term concern. WNS has caused rapid and massive declines of hibernating bats in the northeastern United States, where this disease has persisted for at least 4 years (2). Thus, the coming growing season may be the first in which he adverse effects of this disease will become noticeable. Because of regional differences in crop production, the agricultural value of bats in the U.S. Northeast may be comparatively small relative to much of the United States (see the figure) (SOM). However, evidence of the fungus associated with WNS was recently detected in the Midwest and Great Plains, where the estimates of the value of bats to agriculture are substantial (see the figure). Additionally, because this region has the highest onshore wind capacity in North America, increased development of wind energy facilities and associated bat fatalities in this region can be expected (1Q). Thus, if mortality of bats associated with WNS and wind turbines continues unabated, we can expect noticeable economic losses to North American agriculture in the next 4 to 5 years.	
0097-12	On June 7, 2011 Garrad Hassan, a noted advisor to the wind industry, stated in a presentation to the New England Wind Energy Education Project Conference entitled "Wind Turbine Design and Operation: How to Mitigate Impacts" that: Disclaimer: Bat mortality reductions are based on a limited number of studies at sites with observed high bat mortality. Caution should be taken in extrapolating mortality reductions to other sites as the magnitude and the type of bat mortality is site specific. Projects that are	The analysis in the EIS and HCP use the best available science relative to bat interactions with wind turbines. Multiple studies have tested a range of cut-in speeds between 3.5 m/s and 6.5 m/s (Good et al. 2012, Good et al. 2011, Arnett et al. 2011, Baerwald et al. 2008). All of these studies have documented a significant difference in the level of bat mortality between turbines that are operating per the manufacturer programmed settings, and those that are operating with feathering and use of a

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	sited to avoid bat interference or that employ other mitigation techniques may not see comparable mortality reductions.	cut-in speed.
0097-13	With each passing day, more information concerning the wind industry is coming to light. Exaggerated claims of generating capacity that have not borne out; a growing body of scientific evidence confirming negligible impact on carbon reduction; inability to thrive as an industry without public subsidy and state mandates; insignificant contribution to nation's energy supply; epidemiological confirmation of adverse impact on human and wildlife health due to infrasound - the list goes on and on. The benefits of wind energy do not outweigh the costs.	This EIS evaluates the impact of the Buckeye Wind project on various aspects of the human environment. The EIS has addressed the project's impact on carbon emissions and energy generation (Section 5.11 of the EIS), socioeconomics (Section 5.9 of the EIS) and health and safety (Section 5.14 of the EIS). Public policy and state mandates relative to the wind industry as a whole are not addressed under NEPA.
0097-14	And the future of the industry *worldwide* is in question.	Thank you for your comment.
0097-15	Given the state of affairs, the prospect of the USFWS essentially removing or diminishing the protection of bats, important contributors to the ecological health of the nation, is unthinkable.	The USFWS is not considering removing or diminishing protection of bats as part of this permit review process or any other.
0097-16	If you choose to issue a permit, there is neither a compelling reason nor any rational justification for not requiring Buckeye Wind to earn the privilege of more lenient mitigation practices over a period of time. In fact, they should be required to build the project in phases over a period of years rather than all at once.	The Service did not analyze an alternative for phased construction because that is not how the proposed project is defined. Other wind projects (e.g., Beech Ridge HCP, West Virginia) may include an alternative with several phases of development because their project has already constructed the first phase, and the second phase may or may not be developed ultimately.
0098-1	I support the plan.	Thank you for your comment.
0098-2	As land out by Buckeye Wind to protect and enhance wildlife while protecting our environment.	Thank you for your comment.
0098-3	The Buckeye Wind Project will benefit our community and our nation.	Thank you for your comment.
0098-4	Their plan is very workable and a balanced approach to species protection and energy production.	Thank you for your comment.
0098-5	I believe we need to see this project built for our future and my grandkids future.	Thank you for your comment.